REPUBLIC OF INDONESIA
MINISTRY OF NATIONAL DEVELOPMENT PLANNING/
NATIONAL DEVELOPMENT PLANNING AGENCY

PUBLIC PRIVATE PARTNERSHIPS

Infrastructure Projects Plan in Indonesia

2017

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INFRASTRUCTURE PROJECTS PLAN IN INDONESIA

2017

Foreword

by MINISTER OF NATIONAL DEVELOPMENT PLANNING / HEAD OF NATIONAL DEVELOPMENT PLANNING AGENCY (BAPPENAS)

Infrastructure Development 2015 – 2019
Making Progress on PPP Development

Government of Indonesia (GoI) has highlighted that approximately IDR 2,877 trillion (60% of total infrastructure funding needs) is required to fill the gap of total infrastructure funding needs. It is essential to improve the private participation in accelerating infrastructure development in Indonesia up to 40% through Public Private Partnership (PPP) scheme as an alternate creative financing. Furthermore, to advance the quality of infrastructure services, private entity expected to contribute in sharing their knowledge and experience in the development, operation, and management of qualified infrastructure services. Moreover, the Government of Indonesia has committed to continuously improve and innovate in increasing investment attractiveness and to assure involvement of private sector.

The new government continues to evaluate and strengthen the policy in order to support acceleration and improvement of PPP preparation process. For the purposes, the Presidential Regulation 67/2005 and its amendment has been reviewed and revoked through Presidential Regulation 38/2015 on Cooperation between Government and Business Entity in Infrastructure Provision. Moreover, it is strengthened with Ministry of National Development Planning No.4/2015 regarding operational guideline for the PPP in Infrastructure Provision, Head of National Procurement Agency (LKPP) Regulation No. 19/2015 regarding guideline for procurement of Business Entity on PPP in Infrastructure Provision, Ministry of Finance Regulation Number 190 Year 2015 Regarding Availability Payment on PPP in Infrastructure Provision and Ministry of Home Affair Regulation Number 96 Year 2016 Regarding Availability Payment on Regional PPP in Infrastructure Provision.

For over 2 years, The government has showed commitment on acceleration of infrastructure development in Indonesia. There are 7 projects which current status are under construction and 1 project is financial closed with total investment about IDR 81.43 trillion. Further, there are several projects that on progress to financial close.

Started from 2009, BAPPENAS - as national development planning agency in Indonesia who is responsible for PPP planning and implementation – issues PPP Book to provide the information on available infrastructure investment in Indonesia to potential investors. Projects listed in PPP Book are results of rigorous review and screening process by BAPPENAS in compliance with Ministerial Regulation of National Development Planning 4/2015. The projects are organized into two categories based on their readiness level, those are ready to offer projects and under preparation projects. PPP Book also provides information related projects that have already moved to tender process (already tendered).

This PPP Book 2017 is prepared to provide the latest preview and information about infrastructure PPP projects plan. Total projects in this PPP Book are 22 projects with 21 under preparation projects and 1 ready to offer projects also there are 17 already tendered projects.

We hope this PPP book can be a useful reference to any party involved in the PPP development in Indonesia.

Jakarta, December 2016

Prof. Bambang P.S. Brodjonegoro, Ph.D.
Minister of National Development Planning/
Head of National Development Planning Agency

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1. INDONESIA COUNTRY PROFILE

Indonesian economy was ranked 16th in the world in 2015. Entering 2016, Indonesian economic performance goes up with increasing GDP of 4.79% in 2015 to 5.02% in third quarter of 2016. It was a good performance given the weak global economic conditions throughout the year of 2016. Global growth in 2016 was slower than initially expected. The World Bank is estimated to have fallen to 2.3 percent in 2016, the weakest performance since the global financial crisis. This slow global growth was an effect of elections in the United States, the United Kingdom's decision to leave the European Union, and amid rising uncertainty about future policy direction. However, these problems do not affect Indonesian economic downturn. From the beginning of 2016 to the end of the year, Jakarta Composite Index even increased 15.32% to 5,296.711 point, the highest in history across the world.

The Indonesian economy is expected to remain positive. Indonesia's GDP growth rate is predicted to increase to 5.2% in first quarter of 2017 and will continue to improve significantly in the future. The projection assumes household consumption and investment will remain strong. In addition to that, export conditions also expected to improve. This improvement, however, should be supported by a stronger estimate of the global economy and world trade volumes as well as an increase in Indonesian export commodities supply.

According to The Global Competitiveness Report 2016-2017, Indonesia has decline to rank 41st from previous rank of (37th). Indonesia still lags behind other countries in ASEAN: Singapore (2nd), and Malaysia (25th). Similar to previous years, Indonesia performs better than the Philippines (57th), Vietnam (60th), and Cambodia (89th). The report stated that Indonesia's overall performance remains uneven. Even though Indonesia's quality of infrastructure competitiveness is still in rank 60th, quality of public and private governance was decline to rank of 56th. However, some aspects have been sounding the alarm for immediate intensive repairs to achieve the desired strong economy. Labor market conditions become the weakest aspect (rise seven places to rank 108th). Furthermore, the public health situation and primary education are cause of even more concern (ranked 100th from the previous rank 80th).

Indonesia's infrastructure development is still relatively low. Its infrastructure quality score stands at 4.2, still below the average of the ASEAN countries (4.4), nevertheless infrastructure development has a large multiplier effect on the economy. The resulting impact of infrastructure investment on the economy is greater than the value of the investment. This lack of infrastructure investment creates bottlenecks and high costs of transportation and logistics, which at the end of the day reduce the sustainable growth rate. The proportion of Indonesian logistics costs to GDP is 27%. In the Logistics Performance Index (LPI) 2016, Indonesia was ranked 63rd of 160 countries. To date, the total expenditure for infrastructure in the state budget amounted to 2.3% of GDP, well below the average of developing countries (5.5%). Inadequate infrastructure services mean lower quality of life. Hence, infrastructure investment is necessary to sustain growth and improve competitiveness. Infrastructure development is essential to improve Indonesia export performance, support economic growth, and reduce the poverty. In addition, the United Nations reported that infrastructure investment is urgently required in Indonesia mainly because of the

rapid urbanization. Agglomeration economies offer the opportunity to boost productivity growth.

However, not all regions in Indonesia perform well. Thus, to unlock the benefits, sufficient infrastructure investment is critical.

The National Medium Term Development Plan 2015-2019 (RPJMN 2015-2019) states that infrastructure development in Indonesia is aimed at strengthening national connectivity to achieve equitable development, to accelerate the provision of basic infrastructure (housing, clean water, sanitation, and electricity), to guarantee water, food, and energy security, to support the national defense, and to develop urban mass transportation systems, which were all conducted in an integrated manner and by leveraging the role of Public Private Partnership (PPP). The Government intends to make PPP scheme as an approach in sector and cross-sector infrastructure development. The government continues to seek the best efforts to increase the participation of enterprises and societies in development and the financing of infrastructure sector. The government set several main targets related in improving effectiveness and efficiency in the financing of infrastructure, namely (i) PPP implementation as infrastructure development approach; (ii) the availability of financial support in fulfilling infrastructure targets through the provision of alternative infrastructure financing well beyond government funding through the PPP scheme and other creative financing; (iii) infrastructure management efficiency and improved quality of infrastructure services provided by the government or by enterprises; (iv) the acceleration of decision-making process and human resources capacity building.

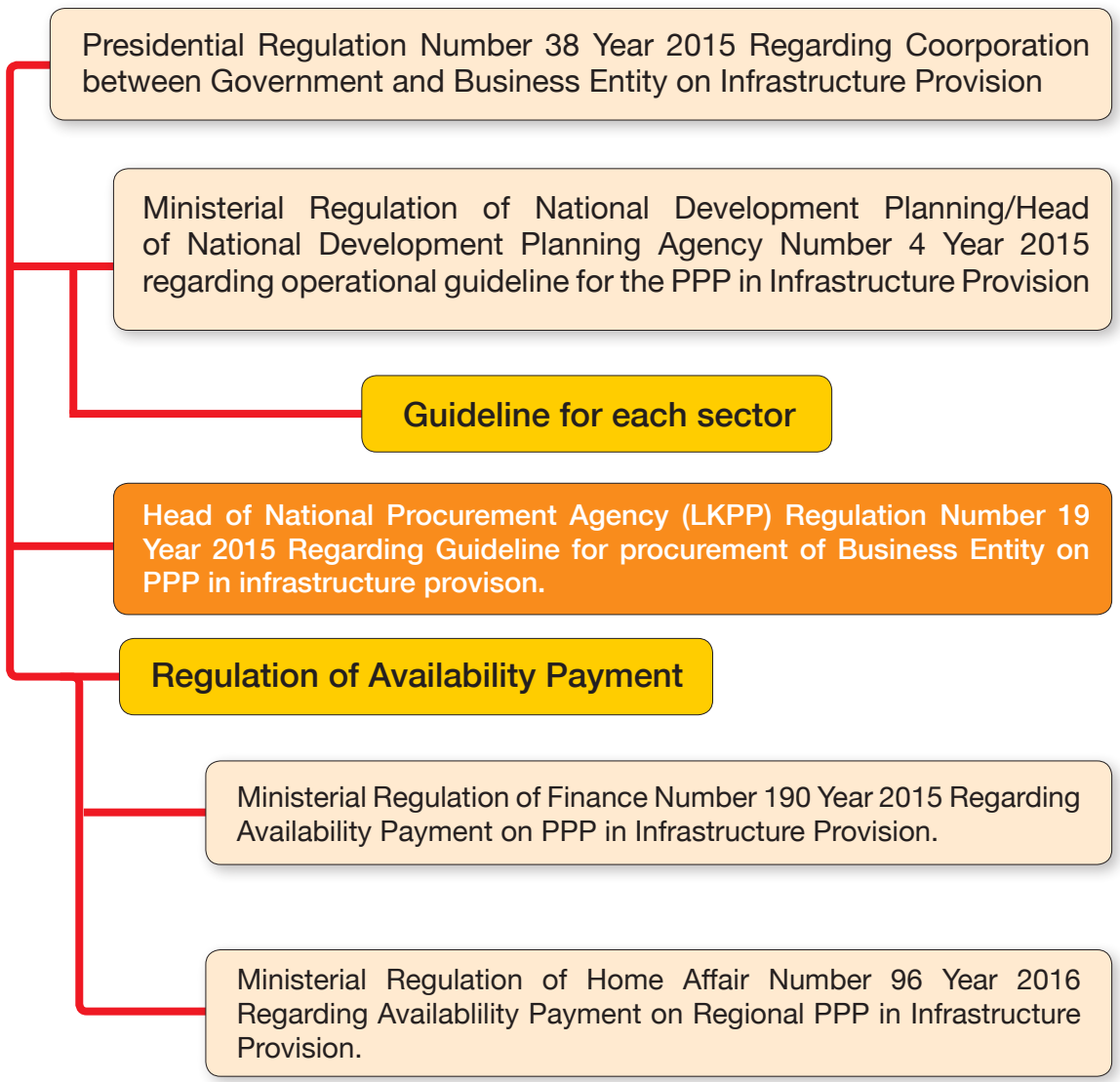
2. REGULATORY FRAMEWORK FOR PUBLIC PRIVATE PARTNERSHIP IN THE PROVISION OF INFRASTRUCTURE

2.1. Cross-Sector Regulator Framework

The Government of Indonesia (GOI) has taken a series of major step to refine the PPP Policies and regulatory framework in order to improve the attractive and competitiveness of GOI's PPP program. There are:

- Presidential Regulation Number 38 Year 2015, issued by government as replacement of Presidential Regulation number 67 year 2005 and its amendment, establishing the cross-sector regulation framework for implementing PPPs in the provision of infrastructure. The successive amendments have established clearer and more detailed stipulations about unsolicited proposal, cooperation agreement, return on investment with the payment by the user in the form of tariffs (user charge) or availability payment, government support and guarantees to project, among other points;
- Presidential Regulation Number 78 year 2010 regarding government guarantee on PPP infrastructure project. Ministry of Finance regulation number 260 Year 2010 as amended by Ministerial Regulation of Finance No. 8 year 2016 regarding guideline on government guarantee. The Government guarantee has been applied on Palapa Ring Project, Umbulan Water Supply Project, Central Java Power Plan Project, and Toll Road Projects;

- Ministerial Regulation of National Development Planning/Head of National Development Planning Agency Number 4 Year 2015 regarding operational guideline for the PPP in Infrastructure Provision.
- Head of National Procurement Agency (LKPP) Regulation Number 19 Year 2015 Regarding Guideline for procurement of Business Entity on PPP in infrastructure provision.
- Ministerial Regulation of Finance Number 190 Year 2015 Regarding Availability Payment on PPP in Infrastructure Provision.
- Ministerial Regulation of Home Affair Number 96 Year 2016 Regarding Availability Payment on Regionl PPP in Infrastructure Provision.
- Ministerial Regulation of Finance Number 223 Year 2012 Regarding Viability Gap Funding.



Government Guarantee

- Presidential Regulation Number 78 year 2010 regarding government guarantee on PPP infrastructure project
- Ministerial Regulation of Finance number 260 Year 2010 as amended by Ministerial Regulation of Finance No. 8 year 2016 regarding guideline on government guarantee

Government Support

- Ministerial Regulation of Finance Number 223 Year 2012 regarding Viability Gap Funding.

3. PPP PROJECT CYCLE

3.1 Solicited Proposals

For solicited proposals, the PPP project cycle consists of three phases, namely planning, project preparation, and transaction. Figure 3.1 shows the interrelation between the three phases of the PPP projects cycle.

Figure 3.1 The Project Cycle for Solicited Proposals

3.2 Unsolicited Proposals

The process for dealing with unsolicited proposals involves two stages, namely:

- The first stage is standard in most cases and takes place from the time the proponent presents the project to the government until all internal assessments and approvals are finished and the project is ready to be publicly tendered
- The second stage involves a competitive tender process; approaches tend to differ in incentives or benefits to the original proponent of the project

Figure 3.2 shows the detailed steps for each stage of the management process for a private business entity initiating an unsolicited infrastructure proposal. The principle in designing the procedure for unsolicited proposals is that the proponents should know precisely where and to whom to submit their proposals, what information is required, and the steps and time frame for decisions to be made.

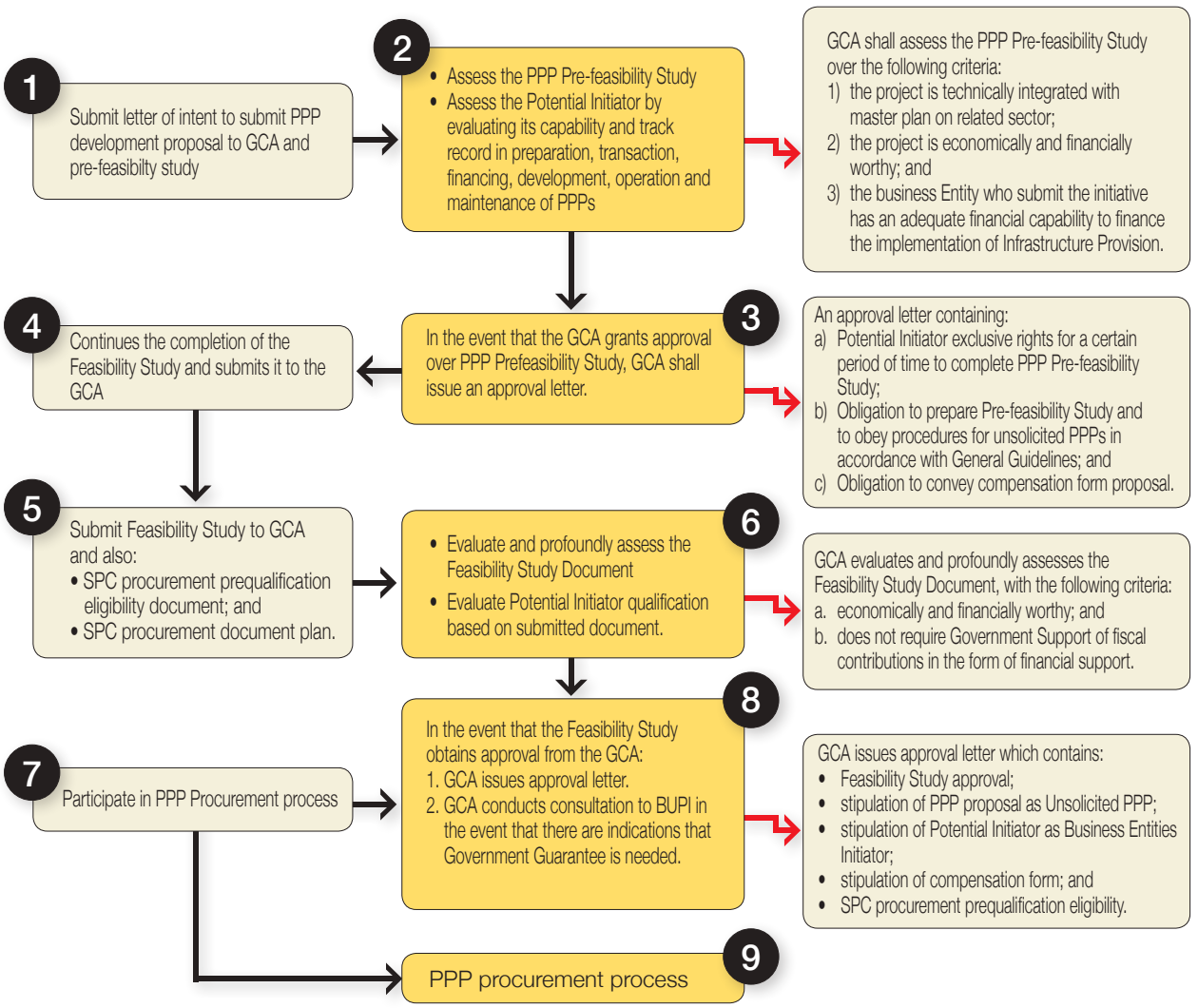


Figure 3.2 Unsolicited PPP Proposal Stage

4. PPP PROJECT SELECTION CRITERIA

The PPP Book is a list of Public Private Partnership projects planned in Indonesia. The list consists of two categories: (i) Under Preparation Projects; and (ii) Ready to Offer Project. The PPP Book is prepared and published every year in accordance with the process of Government's Work Plan. The PPP Book is also updated regularly.

In order to be registered in the PPP Book, the Minister, Head of Institution or Head of Local Government must submit their project proposal to BAPPENAS along with a statement about the Ministry/Institution or Local Government working unit that will be responsible for planning, preparation and transaction of the proposed PPP project. The PPP project proposal should be accompanied by supporting documentation that differs between planning stages, as shown in Figure 4.1.

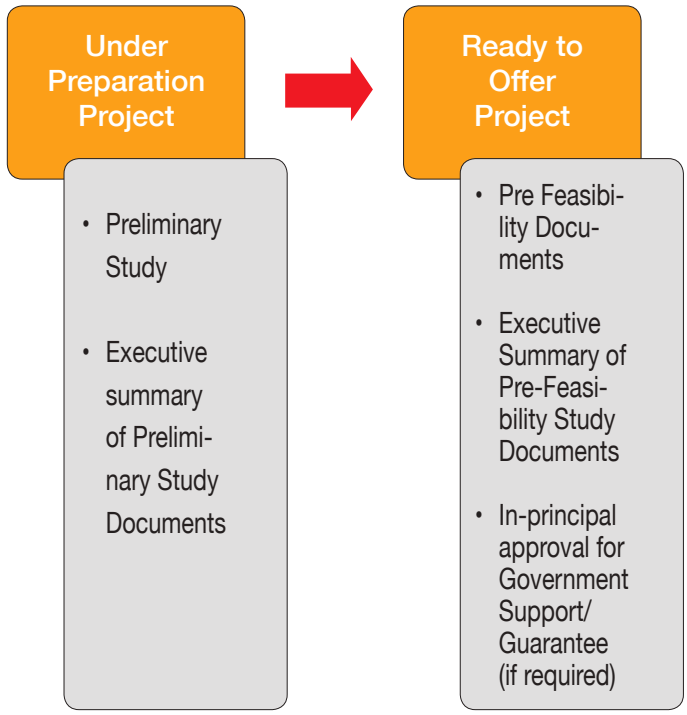


Figure 4.1 Supporting Documentation for PPP Project Proposals

The PPP Book 2017 has been drafted in compliance with BAPPENAS Regulation Number 4/2015, which governs the procedures for implementation of PPP's and registration of projects in the PPP Book, respectively. The criteria in these regulations have been designed to ensure that all projects are properly analyzed and designed before entering the PPP Book.

The Government is aware that any information that gives bidders a good understanding of the technical requirements of projects will help them arrange the right mix of consortium partners with confidence, making them more likely to participate in the venture. An overview of the output or performance specification for a service or facility helps potential bidders understand what the project is intended to produce. This results in a clearer definition of scope and responsibilities, including the needs for specialist partners.

Following is a summary of assessment criteria for projects to be integrated in the PPP Book, along with requirements associated with environmental assessment, land acquisition and resettlement, government support and government guarantee for each of the planning categories of the Book.

4.1 Under Preparation Project

Under Preparation Project Eligibility Criteria

- Compliance with National/Regional Mid-Term Development Plan and Strategic Plan of infrastructure sector;
- Suitability of the project location which will be cooperated with Spatial Plan;
- Relating inter-sector of Infrastructure and inter-region; and
- Ownership of document of Preliminary Study.

4.2 Ready to Offer Project

Ready to Offer Project Eligibility Criteria

- has obtained certainty regarding PPP readiness, technical compliance, market interest, and option of PPP form;
- has completed environment impact assessment in accordance with laws and regulations;
- has compiled draft output of detailed specification;
- has compiled draft structure of tariff;
- has conducted financial model analysis, allocation and risk mitigation and also granting of Government Support and/or Government Guarantee mechanism, if needed;
- has compiled draft of procurement planning considering:
  1) potential and interest of Business Entities on PPP;
  2) proper planning or implementation of procurement schedule; and
  3) determination and readiness of Procurement Committee.
- has compiled draft of PPP agreement; and
- has obtained approval from the GCA for PPP unsolicited project.

4.3 Important Notes related to the Viability Gap Fund and Government Guarantee during the Procurement Process

Government Support

- Before Prequalification stage, the GCA shall file a request for granting initial determination of feasibility support, in accordance with the laws and regulations;
- During bid stage, the Minister of Finance shall issue a principal approval letter on VGF support;
- Once a tender winner has been selected, the GCA must submit the tender results to the Minister of Finance as the basis for the Minister of Finance to issue the final decision letter on VGF support.

Activities Related to Government Guarantee
• Before project bidders submit their proposals, the GCA must ensure that BUPI has issued the approval in principle, in the form of a Letter of Intent based on the results of BUPI's evaluation.

4.4 Eligibility Criteria for Unsolicited Proposals

In the case of unsolicited proposals, there are specific stipulations in BAPPENAS Regulations 4/2015 that determine the eligibility of a project and how it is prepared and transacted. An unsolicited project must meet the criteria for Ready-to-offer projects before the Minister/ Head of the Institution/Head of Region submits a project proposal to BAPPENAS. The project initiator must prepare and submit a Feasibility Study for review and approval by the GCA (articles 40 of Regulation 4/2015).

On the other hand, Chapter V of Bappenas Regulation 4/2015 specifies that, once the preparatory phase has been completed and the project is ready to be publicly tendered, the GCA must determine the chosen form of compensation to the initiator from the three possibilities legally available: 1) additional value of 10% of bid scores 2) right to match, or 3) the purchase of the PPP initiative.

Full details of the criteria and requirements mentioned above can be found on the website at http:/pkps.bappenas.go.id

5. PPP PROJECT EVALUATION

5.1 PPP Books From 2009 to 2017

The following figure depicts the evolution of evaluation of PPP projects throughout the successive PPP Books since the year 2009. BAPPENAS decided to change the title of PPP Book 2016 to be this PPP Book 2017 with consideration as follows:

- This PPP Book is issued at the end of 2016 to be applied for implementation in 2017; and
- To synchronize with national development plan cycle (Government Working Plan 2017) Thus, this PPP Book is prepared to provide preview and information about infrastructure projects plan.

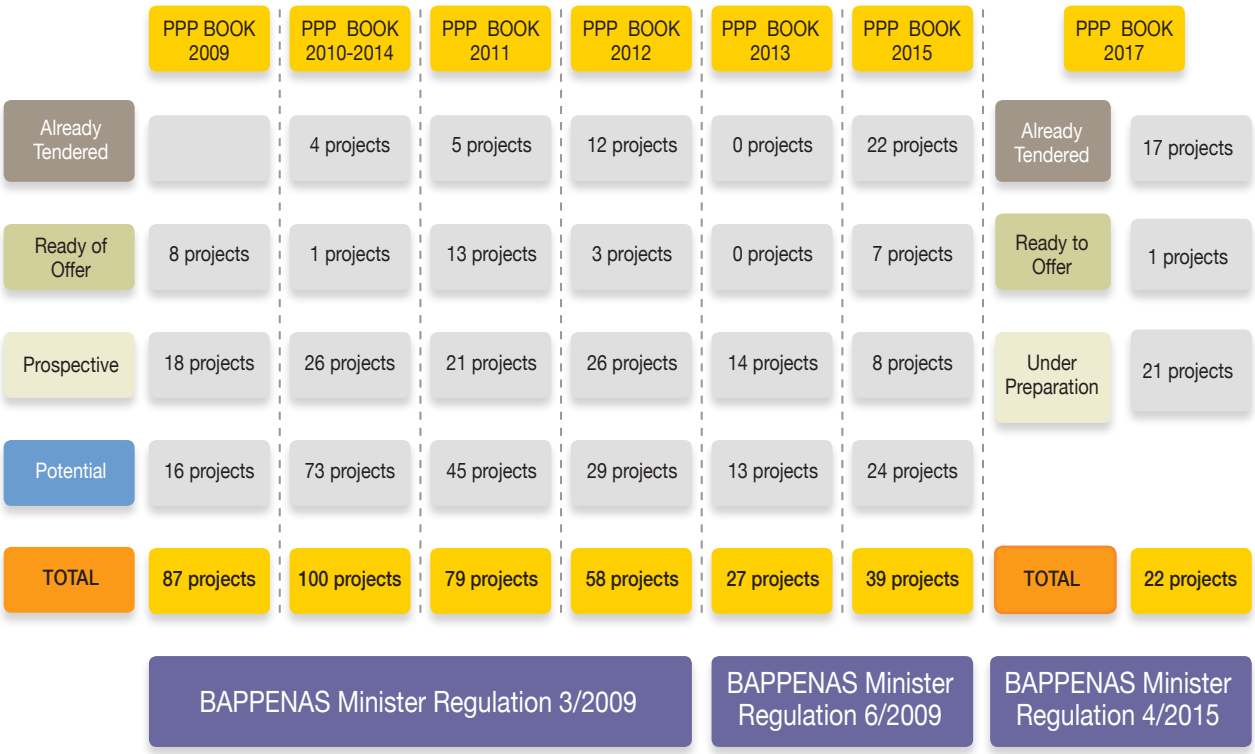


Figure 5.1 Summary of PPP Book 2009 – 2017

Total projects in this PPP Book are 22 projects. During 2016, BAPPENAS received proposals of infrastructure project from ministries as well as local government. BAPPENAS conducted review and screening process to those proposals in compliance with BAPPENAS Regulation 4/2015. From the review and screening process, 22 proposals can be accepted to be included in PPP Book 2017 categorized as Ready to Offer project and Under Preparation Project. This PPP Book also includes 17 projects as already tendered project.

5.2 PPP Book 2015 – PPP Book 2017

Figure 5.2 summarizes the results of the evaluation process carried out since the publishing of the previous edition of the PPP Book. Of the 39 projects contained in the 2015 edition, some projects have been removed, some are carried in this edition. The carried projects are:

- Pondok Gede Water Supply, Bekasi, West Java
- Pekanbaru Water Supply, Riau
- Tanjung Priok Access Toll Road, DKI Jakarta
- Expansion of Kabil Port (TanjungSauh Terminal), Riau Island
- Kuala Tanjung Port Expansion, North Sumatera
- Bitung Hub International Port Expansion, North Sulawesi
- Makassar New Port Development, South Sulawesi
- Development of Batam Railway, Riau Island

Meanwhile the already tendered projects are:

- Palapa Ring
- Cileunyi – Sumedang – Dawuan Toll Road, West Java
- Manado – Bitung Toll Road, North Sulawesi
- Balikpapan – Samarinda Toll Road, East Kalimantan
- Pandaan – Malang Toll Road, East Java

The PPP Book 2017 contains projects from previous edition and new projects that have succeeded in the evaluation of process.

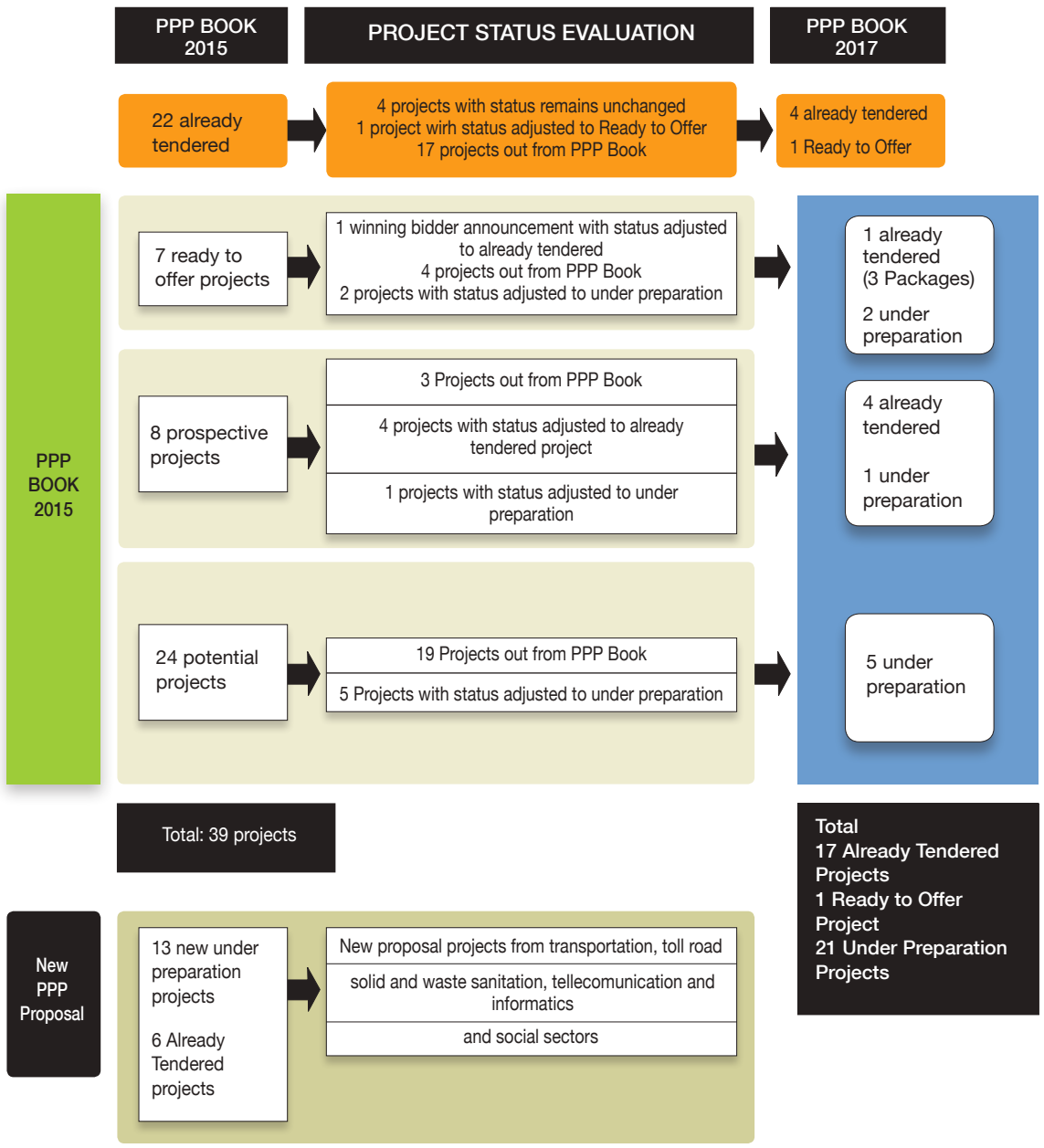


Figure 5.2 PPP Book 2017 Evaluation

5.3 Summary of Already Tendered Projects

Table below is already tendered projects up to December 2016. There is a total of 17 projects undergoing procurement process.

No.	Project Name	Description	Status (December 2016)
1	Central Java Power Plant	This project is aimed to increase source of electricity in Central Java	Already tender (Under Construction)
2	PALAPA RING West Package	The Palapa Ring projects constitute the backbone of the national optic fiber to be built in regions that will link all districts/municipal cities in Indonesia. The optic fiber network was part of the efforts to increase access to information and provide more opportunities to the people for further prosperity. This could be in the form of facilitating e-commerce facilities.	Already tender (Under Construction)
3	PALAPA Ring Middle Package	The Palapa Ring projects constitute the backbone of the national optic fiber to be built in regions that will link all districts/municipal cities in Indonesia. The optic fiber network was part of the efforts to increase access to information and provide more opportunities to the people for further prosperity. This could be in the form of facilitating e-commerce facilities	Already tender (Under Construction)
4	Serpong – Balaraja Toll Road	This toll will concect Serpong and Balaraja	Already tender (Under Construction)
5	Manado – Bitung Toll Road	Manado and Bitung will become the strategic area for trading in North Sulawesi Province. The government plan to develop area within Manado and Bitung, which called as Bitung – Minahasa - Manado	Already tender (Under Construction)

No.	Project Name	Description	Status (December 2016)
6	Balikpapan – Samarinda Toll Road	This project will develop new toll road corridor from Balikpapan to Samarinda for 99.02 km and as part of esthablishment of a sub-regional multi-modal transport network to support the free movement of people and goods acroos borders.	Already tender (Under Construction)
7	Pandaan – Malang Toll Road	This toll will connect the Surabaya Municipal with the other area in East Java through Malang Regency and Pasuruan Regency.	Already tender (Under Constructon)
8	Umbulan Water Supply, East Java	The Umbulan SPAM project will begin construction in 2017 and is expected to begin operations in 2019. By the time it operates it will have an approximately 93-kilometer drinking-water pipe network across five cities and regencies in East Java, including Sidoarjo and Surabaya.	Already tender (Financial Close)
9	PALAPA RING East Package	The Palapa Ring projects constitute the backbone of the national optic fiber to be built in regions that will link all districts/municipal cities in Indonesia. The optic fiber network was part of the efforts to increase access to information and provide more opportunities to the people for further prosperity. This could be in the form of facilitating e-commerce facilities.	Already tender (Contract Signed)
10	Krian-Legundi-Bunder-Manyar Toll Road	The toll road is 38,29 km length and will be construct in 4 stage : Section I : Krian-Kedamen Section II : Kedamen-Boboh Section III : Boboh-Bunder Section IV : Bunder-Manyar	Already Tender (Contract Signed)

No.	Project Name	Description	Status (December 2016)
11	Jakarta -Cikampek Elevated II Toll Road	Jakarta – Cikampek Toll Road II (Elevated), which has two junctions, will be one of the alternative for people to reach Bekasi, Karawang and other cities in Java Island.	Already Tender (Contract Signed)
12	Batang – Semarang Toll Road	Development toll road from Batang to Semarang (75 km)	Already Tender (Contract Signed)
13	Serang – Panimbang Toll Road	The project is to unlock the potential of the area and increase investment opportunities in the tourism sector, agribusiness, marine, mining and industry. As a result, it will promote economic growth and development of South Banten region	Already Tender (Under Procurement Process)
14	Semarang – Demak Toll Road	The project is developed to accommodate further development of Semarang and Demak which both of them has large potential natural resources.	Already Tender (Under Procurement Process)
15	Probolinggo - Banyuwangi Toll Road	This project is expected to play an integral part of East Java Road System along 170 km which connected Probolinggo and Banyuwangi, crossing three districts in East Java including Situbondo district.	Already Tender (Under Procurement Process)
16	Cisumdawu (Cileunyi-Sumedang-Dawuan) Toll Road	Toll Road Construction Plan Phase II Cisumdawu Sumedang-Dawuan segment with a length of 38.14 km road is an advanced program of the previous plan, Cisumdawu Phase I between Cileunyi to the region Sumedang.	Already tender (Under Procurement Process)
17	NAMBO Final Disposal (TPPAS)	Waste on Nambo TPPAS will be processed into useful products such as Recycle Material, RDF(refuse derived fuel), and Compost. These projects are expected to be the solution to the waste problem in the city of Bogor and Depok.	Already tender (Under Procurement Process)

6. PROJECT DIGEST

6.1 Projects Registered in the PPP Book 2017

Table below is summary of under preparation and ready to offer project which registered in the PPP Book 2017:

No.	Project Name	Description	Status (December 2016)
1	Bandar Lampung Water Supply	The purpose of the project is to provide a reliable water supply in accordance with the technical standards in order to meet people's needs and support economic activities in Bandar Lampung City.	Ready to Offer
2	Development of Kabil Port (Tanjung Sauh Terminal), Batam	Batam Indonesia Free Zone Authority (BIFZA) is planning to develop Kabil Port by expanding new Transshipment Terminal to serve container vessel transportation market in Malacca Strait corridor. The new terminal is located in Tanjung Sauh Island, city of Batam.	Under preparation
3	Development of Kuala Tanjung International Hub Port, North Sumatera	Kuala Tanjung port is located in the strategic Malaka Strait and determined as international hub port. This port is also potential as a support for Belawan port, especially for bulk commodity because the density of the traffic	Under preparation
4	Development of Bitung International Hub Port, North Sulawesi	Bitung Hub International Port is located on the island of Lembeh in Bitung City. This port will support the development of Bitung Special Economic Zone (SEZ), which is declared as one of the Government of Indonesia's priorities	Under preparation
5	Development of Makassar New Port, South Sulawesi	Makassar Port is one of the fourth largest port in Indonesia and the largest port in Sulawesi Island. By 2032 the Master Plan estimates 2.8M TEUs and	Under preparation

No.	Project Name	Description	Status (December 2016)
		26M tons of general cargo and bulk, far outstripping the current capacity of the port. Under current conditions, demand is expected to exceed supply by 2017; hence there is an urgent need for port expansion.	
6	Development of Patimban Port, West Java	Government of Indonesia has officially declared the Patimban Port in Subang (West Java) as a national strategic project through Presidential Decree No. 47/2016, signed by Indonesian President Joko Widodo. This declaration implies that the project is regarded as priority project that benefits the economy and society as a whole.	Under preparation
7	Batam Island Railway, Riau Islands	According to Railway Masterplan document, Batam Island has its priority railway development segment in Batu Ampar-Batu Aji along 27.55 km. In the corridor expected to serve demand of 16.986 passanger/hour/route. Thus potential comes from commercial area, seaport area dan residential area.	Under preparation
8	Urban Railway City of Medan, North Sumatera	The urban railway will stretch from southern part to Northern part of Medan City along 19.20 km stretch from Letjend Jamin Ginting to HM. Yamin and Wiliem Iskandar Street.	Under preparation
9	Sukabumi – Ciranjang Toll Road	The project will support West Java Province to development economic growth and poverty. The Project will fulfill the need of public transportation system and create an integrated system in Java Island.	Under preparation

No.	Project Name	Description	Status (December 2016)
10	The 2nd Jakarta - Cikampek Toll Road	The route of 2nd Jakarta – Cikampek Toll Road is proposed at south of existing Jakarta – Cikampek Toll Road to avoid paddy field spread widely in the north side.	Under preparation
11	Tanjung Priok Access Toll Road	It has an essential role for economic and industrial activities in the central district of Jakarta.	Under preparation
12	Yogyakarta - Solo Toll Road	Jogja – Solo Toll Road will cross Sleman District in Yogyakarta and 3 districts in East Jawa; Surakarta District, Sukoharjo District and Klaten District	Under preparation
13	Yogyakarta - Bawen Toll Road	The development of this toll road is important to cover the mobility of people who cross this city	Under preparation
14	Final Waste Disposal Site (TPPAS) Legok Nangka, West Java	This project aiming to improve solid waste processing , to reduce total waste in West Java area also to propose new environmentally friendly technology .	Under preparation
15	Pondok Gede Water Supply, Bekasi, West Java	To expand the service coverage of the water supply system and improve the quality of service of PDAM Bekasi Municipal.	Under preparation
16	Pekanbaru Water Supply, Riau	To expand the service coverage of the water supply system and improve the quality of service of PDAM Pekanbaru.	Under preparation
17	Sindang Heula Water Treatment Plant, Banten	This project is expected to improve the quality of service of drinking water in Banten Province.	Under preparation
18	Government Multi Function Satellite	Multifunctional satellite project is expected to provide benefits for Indonesia's services to citizens as well as education and defense development.	Under preparation

No.	Project Name	Description	Status (December 2016)
19	Nusakambangan Correctional Institution	The project will combine correctional facility with productive activities such as animal husbandry. This might occur due to the geographic potential of Nusakambangan where it has 210,000 Ha of the island.	Under preparation
20	Sport Facility Papua	GOR Mandala is located in Soa Siu in Jayapura. There will be a commercial area, hotel and culinary area around this area. Mandala Stadium is renovated to meet international criteria and it can be used in international event in the future.	Under preparation
21	Sam Ratulangi Teaching Hospital, North Sulawesi	The project is to be an excel hospital which arrange complex education and research in term of Professional Study Program, Clinical Practice, and other support medic profession.	Under preparation
22	Bandung Street Lighting, West Java	Development of Public Street Lighting require contribution both from public and private sector. In 2015, about 32,000 Public Street Lighting scattered in main road of Bandung. However with variety condition of the utilities, need availability of resources to provide public with adequate services.	Under preparation

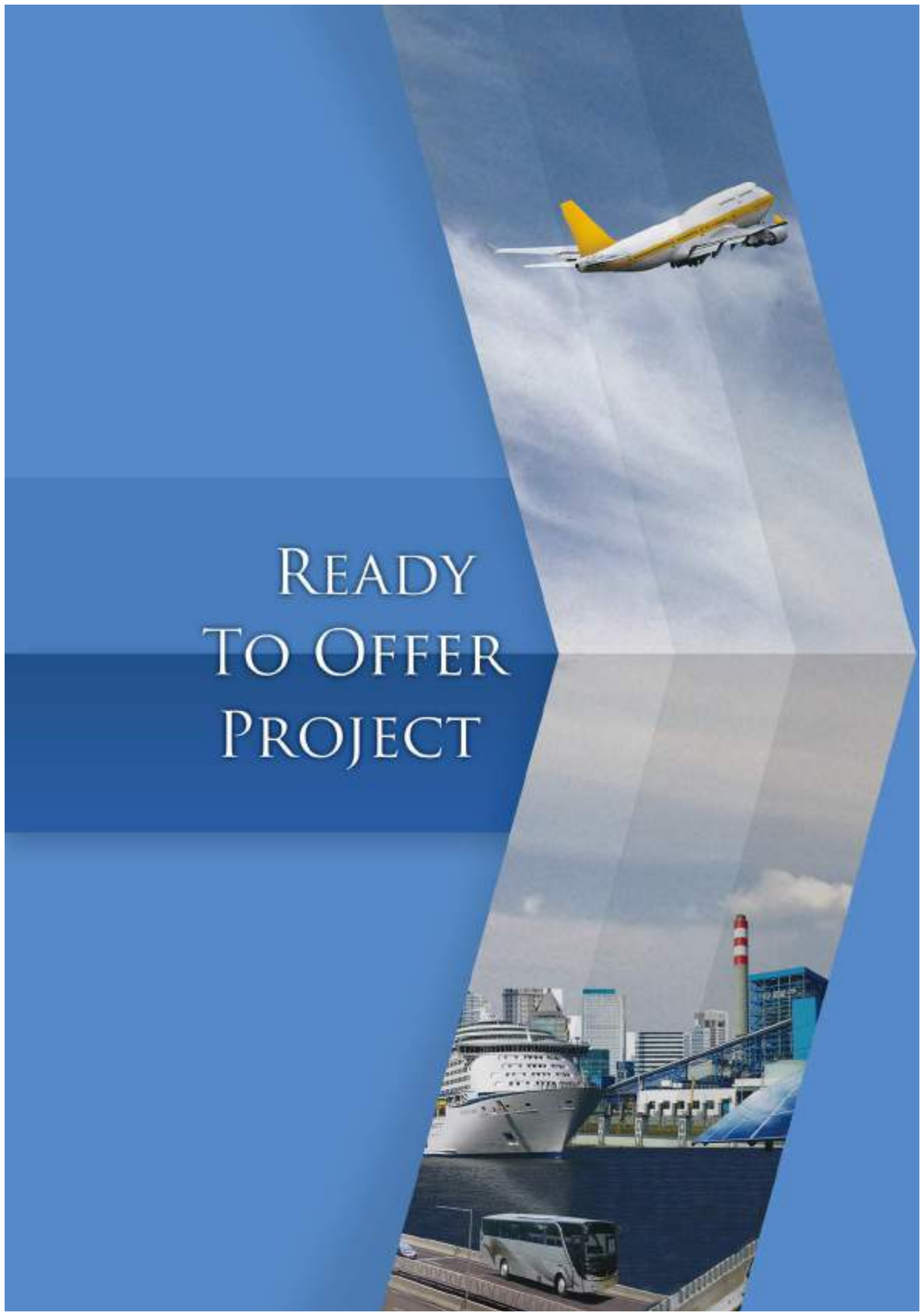
Table below is summary of 22 projects registered in PPP Book 2017:

READY TO OFFER	UNDER PREPARATION
Water Supply • Bandar Lampung Water Supply	**Sea Transportation** • Development of Kabil Port (Tanjung Sauh Terminal), Batam • Development of Kuala Tanjung International Hub Port, North Sumatera • Development of Bitung International Hub Port, North Sulawesi • Development of Makassar New Port, South Sulawesi • Development of Patimban Port, West Java **Railway** • Batam Island Railway, Riau Islands • Urban Railway City of Medan, North Sumatera **Toll Road and Toll Bridge** • Sukabumi - Ciranjang Toll Road • The 2nd Jakarta – Cikampek Toll Road • Tanjung Priok Access Toll Road • Yogyakarta – Solo Toll Road • Yogyakarta – Bawen Toll Road **Solid Waste and Sanitation** • Final Waste Disposal Site (TPPAS) Legok Nangka, West Java **Water Supply** • Pondok Gede Water Supply, Bekasi, West Java • Pekanbaru Water Supply, Riau **Water Treatment** • Sindang Heula Water Treatment Plant, Banten **Satellite** • Government Multi Function Satellite **Social Infrastucture** • Nusakambangan Correctional Institution • Sport Facility Papua • Sam Ratulangi Teaching Hospital, North Sulawesi • Bandung Street Lighting, West Java.

6.2 Summary of Public Private Partnerships Project Plan in Indonesia

Table below is the summary of PPP Project Plan in Indonesia for 2017, consists of 1 project, categories as ready to offer project, and 21 projects, categories as under preparation projects, with total estimated project cost of USD 8,393.88 million.

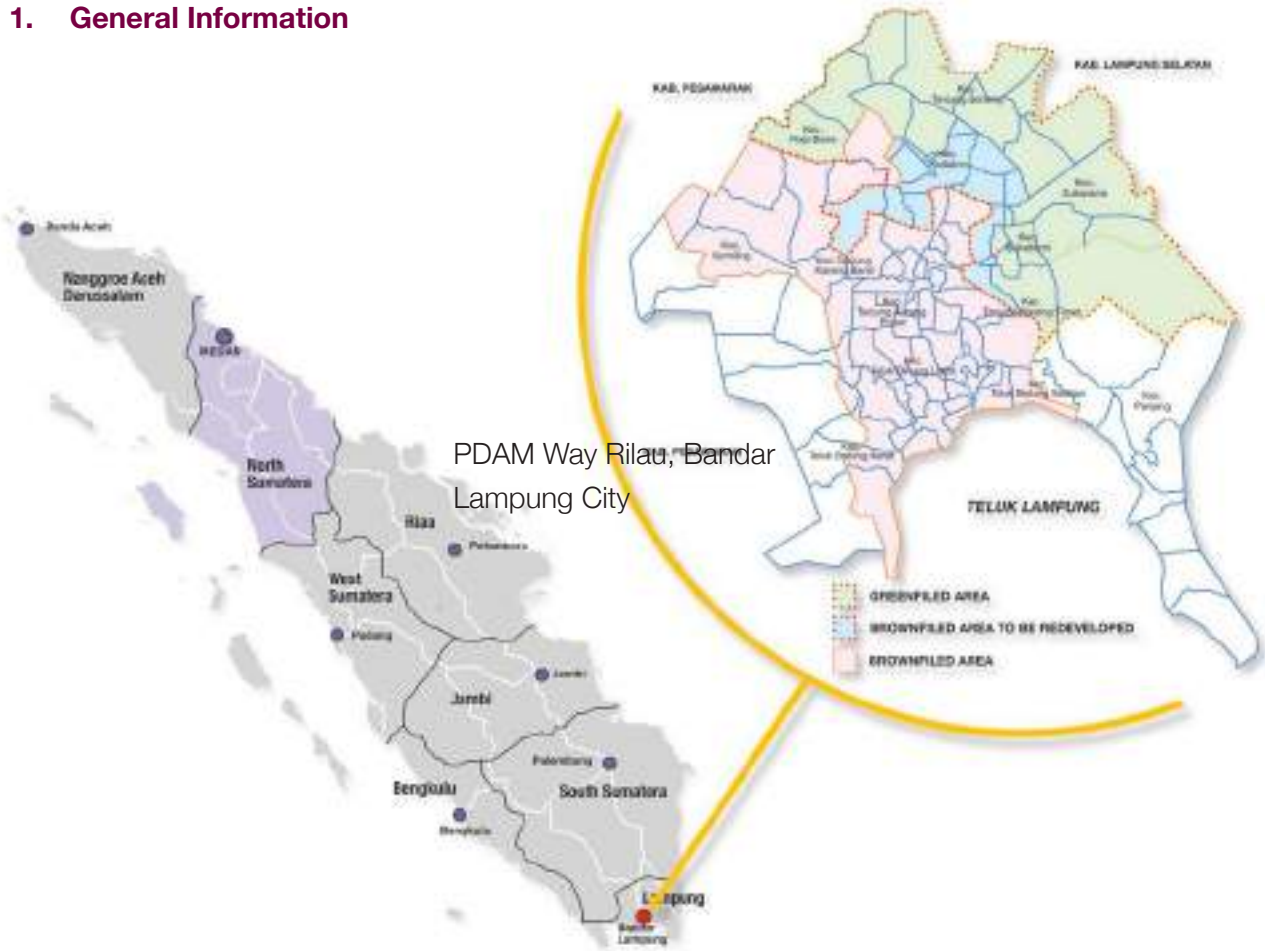
Project Readiness	Sector/Sub-sector	Project Name	Estimated Project Cost (USD million)
Ready to Offer	Solid Waste and Sanitation		81.48
	Water Supply	Bandar Lampung Water Supply	81.48
Under Preparation	Transportation		5,996.97
	Sea Transportation	Development of Kabil Port (Tanjung Sauh Terminal), Batam	729.00
	Sea Transportation	Development of Kuala Tanjung International Hub Port, North Sumatera	3.67
	Sea Transportation	Development of Bitung International Hub Port, Bitung North Sulawesi	532.00
	Sea Transportation	Development of Makassar New Port, South Sulawesi	416.00
	Sea Transportation	Development of Patimban Port, West Java	3,203.00
	Railway	Batam Island Railway Project, Riau Islands	635.00
	Railway	Urban Railway City of Medan, North Sumatera	477.40
	Toll Road and Toll Bridge		1,601.00
	Toll Road	Sukabumi – Ciranjang Toll Road	103.00
	Toll Road	The 2nd Jakarta – Cikampek Toll Road	834.00
	Toll Road	Tanjung Priok Access Toll Road	291.00
	Toll Road	Yogyakarta – Solo Toll Road	113.00
	Toll Road	Yogyakarta – Bawen Toll Road	270.00
	Solid Waste and Sanitation		121.23
	Waste Disposal	Final Waste Disposal Site (TPPAS) Legok Nangka, West Java	43.73
	Water Supply	Pondok Gede Water Supply, Bekasi, West Java	25.00
	Water Supply	Pekanbaru Water Supply, Riau	35.50
	Water Treatment Plan	Sindang Heula Water Treatment Plant	17.00
	Telecommunication and Informatics		318.00
	Satellite	Government Multi Functions Satellite	318.00
	Social		276.10
	Correctional Institution	Nusakambangan Correctional Institution	51.50
	Sport	Sport Facility Papua	38.90
	Teaching Hospital	Sam Ratulangi Teaching Hospital, North Sulawesi	28.70
	Street Lighting	Bandung Street Lighting, West Java	157.00
TOTAL			**8,393.88**



Ready To Offer Project

BANDAR LAMPUNG WATER SUPPLY

1. General Information



Government Contracting Agency	:	PDAM Way Rilau, Bandar Lampung City
Implementing Unit	:	PDAM Way Rilau, Bandar Lampung City
Preparation Agency	:	PT. SMI through Project Development Facility from MoF
Estimated Project Cost	:	USD 81.48 million
Estimated Concession Period	:	25 years after COD (BOT Bulk Water Supply including investment part of distribution network piping)
Location	:	Bandar Lampung

2. The Opportunity

2.1. Project Background

Bandar Lampung city as the capital of Lampung province actively conducts physical development, which has implications on land use and population density. These conditions give impact to the increased of drinking water supply needs, caused by the growth of population in Bandar Lampung.

Figure of Bandar Lampung City PPP Project Scheme

Based RPJMN 2015-2019, coverage of drinking water services throughout Indonesia in 2019 must have reached 100%. While the coverage of drinking water services in the city of Bandar Lampung in 2015, especially through the pipeline, only 20%. These services are served by PDAM Way Rilau. Most of population in Bandar Lampung City still rely on groundwater for drinking water source.

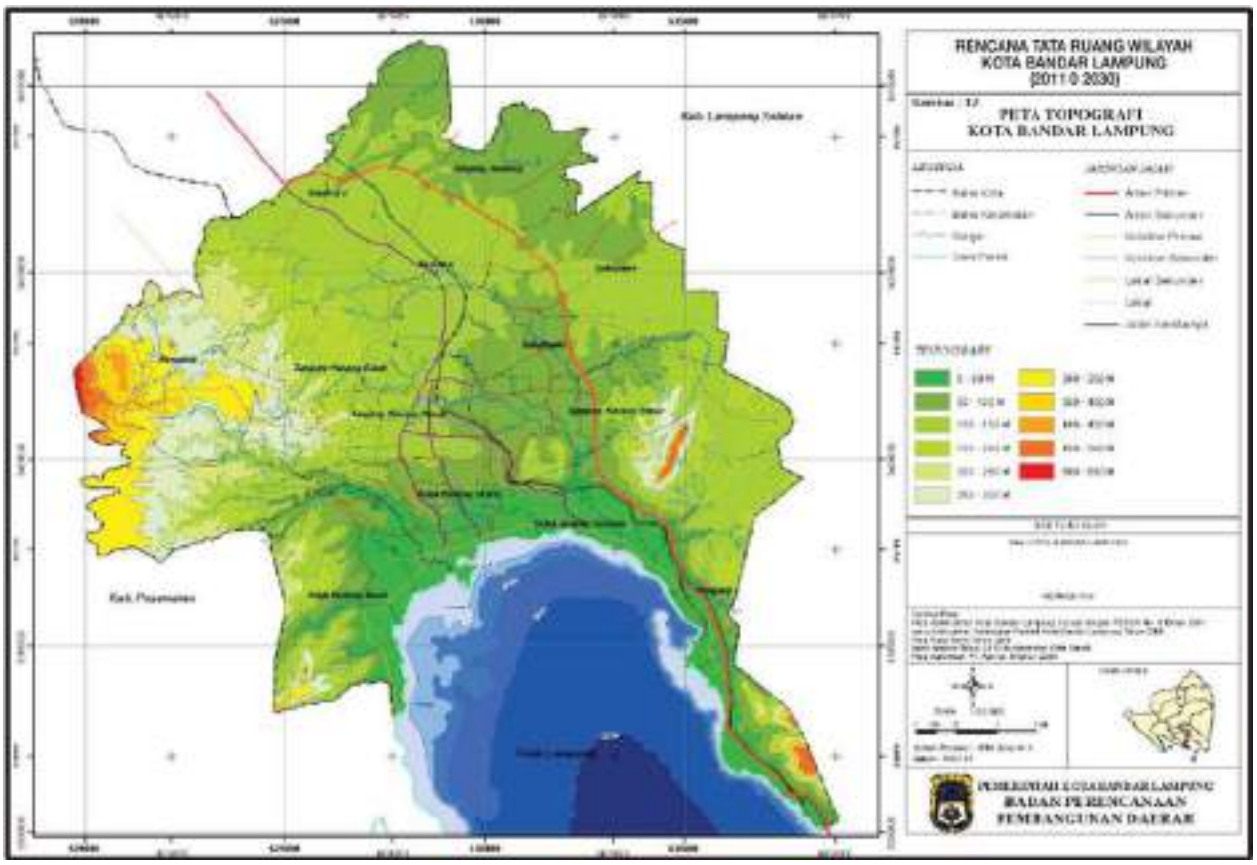


Figure Map of Administration Area Bandar Lampung

2.2. Project Description

Bandar Lampung City Water Supply PPP Project was developed to improve water service to the community of Bandar Lampung City. Most of the households in the area use groundwater to cover their daily needs.

With this project, the management of bulk water supply water in the city of Bandar Lampung will be conducted by PDAM Way Rilau and Project Company. All the distribution network will be operated by PDAM Way Rilau. The level of services is expected to be increased from 20% in 2015 to 46% in 2024 with sustainable access to safe drinking water. The capacity of the system is 750 l / sec and the system will serve 60,000 household connections

The service area will cover 8 districts in Bandar Lampung namely Rajabasa, Labuan Ratu, Way Halim, Kedaton, Tanjung Senang, Sukarame, Sukabumi and Kedamaian District.

Raw water from the intake in Way Sekampung River will be pumped into the Water Treatment Plant (WTP) located in Rulung Helok village, approximately 500 m from the intake site. Furthermore, raw water will be distributed through the transmission pipeline for approximately 21 km to the reservoir in Rajabasa District in Bandar Lampung as the offtake point from Project Company to GCA. The GCA will purchase bulk water using Take or Pay Mechanism and distribute the water to the customers in the service area using pumping and gravitation distribution systems.

The total length of transmission pipes is ± 21 km using steel pipes1.000 mm diameter. The total length of distribution pipes is ± 425 km with varying diameters of 50-1.000 mm using steel and HDPE pipes.

2.3. Project Objectives

The general objectives of the project are as follows:

- To expand the service coverage of the water supply system in Bandar Lampung to approximately 46% of Bandar Lampung total population in 2024.
- To improve PDAM Way Rilau quality of service.

The purpose of the project is to provide a reliable water supply in accordance with the technical standards in order to meet people's needs and support economic activities in Bandar Lampung City. Provision of drinking water through PPP scheme will reduce the financial burden of the municipal government in financing the water sector.

3. Business Entity's Opportunity

The proposed project scheme is Build – Operate - Transfer. Therefore the private partner shall be responsible:

- Build, finance and operate raw water and production unit.
- Build and finance part of the distribution network that will be operated by PDAM Way Rilau Bandar Lampung.

4. Project Technical Specification

The technical specifications for Bandar Lampung Water Supply are as follows:

- Water intake with 750 l/sec capacity
- Water Treatment Plant with 750 l/sec capacity
- Transmission pipe from WTP to Reservoir with ± 21 km length
- 1 (one) reservoir with 10,000 m^3 capacity
- Distribution network with approximately 425 km length (including tertiary network). Project Company will responsible to construct ± 9 km main distribution network and ± 32 km carrier distribution network using pumping system. GCA will be responsible for constructing the other part of the distribution network

5. Environmental Impact Assessment (AMDAL) Findings

The project is classified to require an Environmental Impact Assessment (AMDAL). Initial environmental examinations have indicated that the project should not face any significant problems from an environmental point of view. Until December 2016, AMDAL and Environmental License are being under process.

6. Land Acquisition and Resettlement Action Plan

No Land Acquisition needed for the Project. Land for Intake, WTP and Reservoir will be acquired as GCA's responsibility.

7. Project Structure

Estimated project cost	USD 81.48 million
Indicative debt to equity ratio	
- Debt level	70%
- Equity level	30%

8. Government Support and Government Guarantee

The Project will need VGF from the Ministry of Finance, financial project support from the Ministry of Public Works and Housing and the City Government of Bandar Lampung. To mitigate the project's risks, project guarantee from Indonesia Infrastructure Guarantee Fund (IIGF) may be required. In this regard, the level of risk perceived from investors will be determined at market sounding.

Indicated VGF Requirement	± USD 22.22 million (under process)
Indicated State Budget Requirement	± USD 11.85 million (under process)
Indicated City Budget Requirement	± USD 11.11 million (committed)

9. Project Implementation Schedule

10. Contact Information

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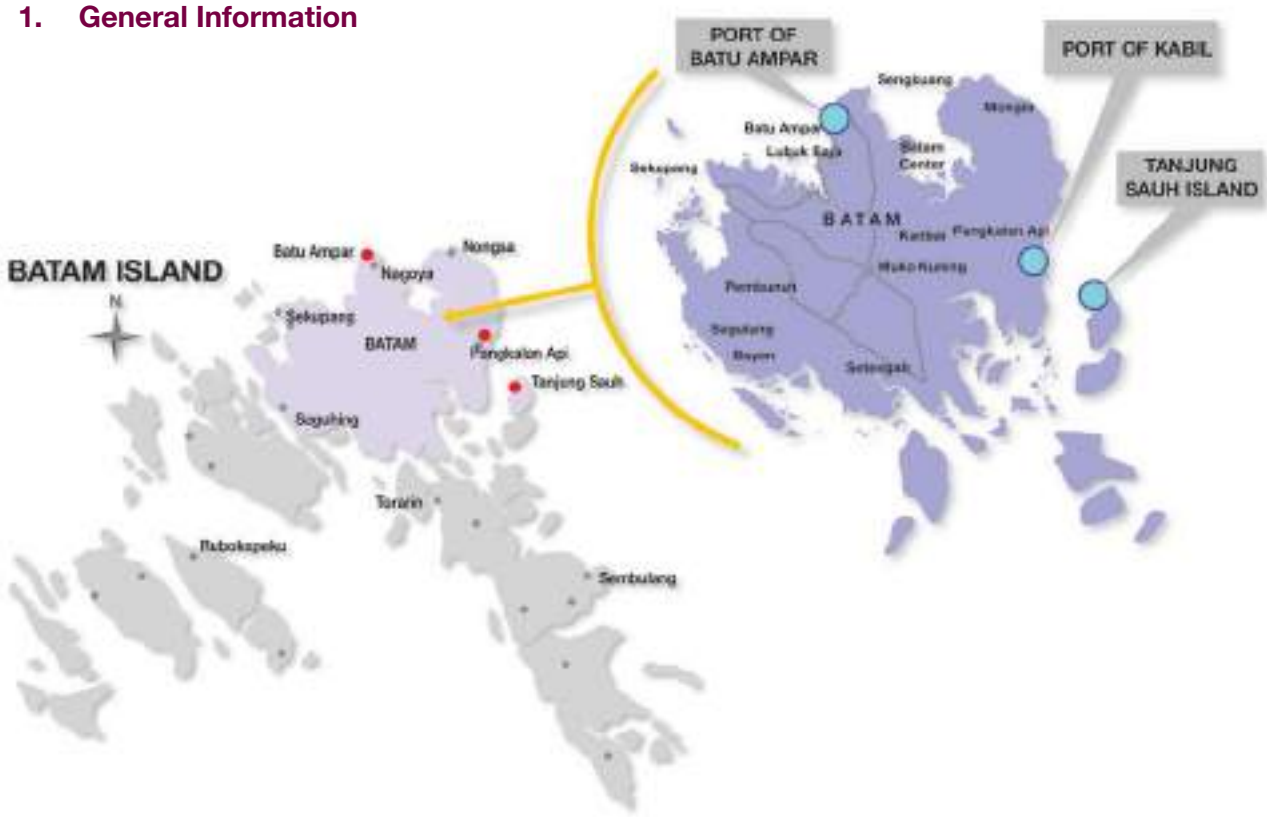
Under Preparation Project

DEVELOPMENT OF KABIL PORT (TANJUNG SAUH TERMINAL), BATAM

1. General Information



Government Contracting Agency	:	Batam Indonesia Free Zone Authority (BIFZA)
Implementing Unit	:	Batam Indonesia Free Zone Authority (BIFZA)
Preparation Agency	:	Batam Indonesia Free Zone Authority (BIFZA)
Estimated Project Cost	:	USD 729.00 million
Estimated Concession Period	:	25 years
Location	:	Batam

2. The Opportunity

2.1. Project Background

Batam Indonesia Free Zone Authority (BIFZA) as a government authority solely responsible for the management and development of Batam Free Trade Zone (FTZ), is planning to develop Kabil Port by expanding its capacity and improve its service level.

The Tanjung Sauh Terminal development is listed as the part of the Acceleration and Expansion of Indonesia Economic Development Master Plan (MP3EI), which is prioritized

by the Government. Thus, this project is nominated as one of sea economic corridors that can serve as transit points/terminal for international and domestic container across the archipelago.

2.2. Project Description

The project is to develop the transshipment container terminal located in Indonesia, Singapore and Malaysia (IMS-GT) within Sijori Growth Triangle and designed to handle transshipment containers of having capacity of more than 3.0 million TEU's.

The proposed project site is planned at the Tanjung Sauh Island for 2.6 km away from the Kabil Port. The Kabil Port is located in the south east of the Batam Island. This Island is facing to the Riau Strait and Bintan Island. This Strait is crossed with the Singapore Strait of the international shipping lanes in position of 01°07'00" North, 104°08'35" East, Anchorage 01°07'00" North, 104°10'30" East.

2.3. Project Objectives

The project is to deliver transshipment services at the gate of maritime of Indonesia water territory that focus on the Malacca Straits and in line with the National Port Master Plan and to develop, operate and expand a transshipment terminal located within Sijori Growth Triangle and designated to handle transshipment containers of having capacity of more than 3.0 million TEU's.

3. Business Entity's Opportunity

Private would have the opportunity to be entitled to set, levy and collect tariff from user for the use of all infrastructure at the Port and the provision of cargo handling services and other ancillary services to user. Also chance to contribute in development of industrial area around the port.

4. Project Technical Specification

In order to have any hope of competing for transshipment traffic in Malacca Strait, Tanjung Sauh terminal has to be able to accept the largest container ships afloat (New Panamax and Triple E class container vessel). Therefore, the ship design for the terminal will be in order of max vessel size 143,000 DWT: Loading volumes 13,000 Teu's: LOA 367m: Beam 48.40 m: Draft 15.50 m: Berth Length 420 m: Berth Depth – 17.00 m LWS.

Land development for terminal masterplan is set for 286 ha, consist of 140 ha of hilly land area, and 146 ha low and reclamation area. Main terminal infrastructures, to be devided into 2 terminals, have been planned for total container handling capacity of 3.2 million TEU's/year, which consist of:

- Jetty construction 2 terminal x (2x460m) / terminal = 1.840 m, width 50 m.
- Container yard along the jetty lines with a width off 450 m.

The proposed waterway access channel: bottom width is 380 m, and the depth is 17.0 m. Tentatively the length of the channel is set for about 1500 m from the existing access channel to the Kabil port.

5. Environmental Impact Assessment (AMDAL) Findings

Preparation of environmental document in the form of AMDAL and RKL-RPL are being conducted parallel with the preparation of Final Business Case and Bid Preparation for the Development of Kabil Port (Tanjung Sauh Terminal).

6. Land Acquisition and Resettlement Action Plan

Law Number 2 Year 2012 on Land Procurement (Law No. 2/2012) and Presidential Regulation Number 71 Year 2012 concerning Implementation of Land Procurement for Public Interest Construction (PR No. 71/2012) provide for an expedited land acquisition procedure in procuring land for project intended to benefit the public. Under the current land acquisition regime, only central and regional government institutions and BUMN/BUMD that have the authority to conduct land acquisition. The timeline for land acquisition under Law No. 2/2012 and PR No. 71/2012 ranges from 319 working days to 539 working days.

7. Project Structure

Estimated project cost	USD 729.00 million
Indicative debt to equity ratio	
- Debt level	57%
- Equity level	43%
FIRR	15.91%

8. Government Support and Government Guarantee

Minister of Finance Indonesia has issued the Finance Minister Regulation No. 223/2012 and Regulation of the Minister of Finance No. 143/2013 which aims to further regulate Article 16 of Presidential Decree No. 38/2015 regulating government support for projects in the form of public-private fiscal contribution, the facility permits, land acquisition, and financing part of the cost of construction for base infrastructure (electricity and water).

In order to support of the project, government of Indonesia will build bridge between Batam Island and Tanjung Sauh Island to connect road transportation. This support is provided by Ministry of Public Works and Housing.

9. Project Implementation Schedule

The period of calculation (project life) in this project evaluation is justified to be 33 years starting in 2016 for procurement of investor and in 2020 starting the terminal operation through 2049 for the Development Plan.

10. Contact Information

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DEVELOPMENT OF KUALA TANJUNG INTERNATIONAL HUB PORT, NORTH SUMATERA

1. General Information

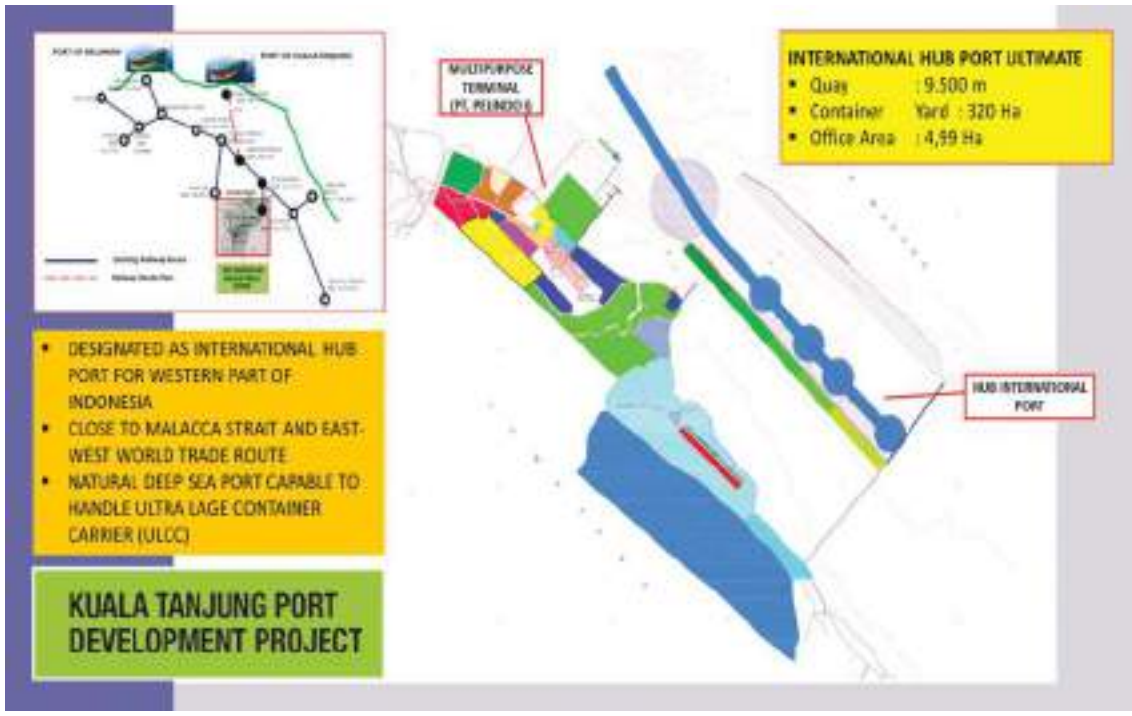
Government Contracting Agency	:	Ministry of Transportation
Implementing Unit	:	Harbour Master and Port Authority of Kuala Tanjung
Preparation Agency	:	Ministry of Transportation
Estimated Project Cost	:	USD 3.67 million
Estimated Concession Period	:	74 years
Location	:	North Sumatera

2. The Opportunity

2.1. Project Background

Kuala Tanjung port is located in the strategic Malaka Strait and determined as international hub port. This port is also potential as a support for Belawan port, especially for bulk commodity because the density of the traffic.

The hinterland of Kuala Tanjung Port is dominated by Oil Palm Plantation which includes Asahan, Simalungun, Labuhan Batu, and the surrounding area in 2009 has reached 1.29108 million tons with a growth of 5% per year.



2.2. Project Description

Based on its potential hinterland, Kuala Tanjung Port will be developed as hub port to handle liquid bulk cargo (CPO), dry bulk cargo, general cargo, and container for North Sumatera Province and Nangroe Aceh Darussalam (NAD) Province. It also will be prepared as outlet/inlet for Sei Mangkei Industrial Area as well as Belawan Port.

2.3. Project Objectives

The project is developed to deliver transshipment service on the Malacca Straits, to support Belawan Port and also Sei Mangkei Industrial Area.

3. Business Entity's Opportunity

Lots of business opportunities in Kuala Tanjung Hub Port Internasional, because it's located in Malaca straits which has:

- ± 200 vessels passing through every day
- ± 600 vessels' activities in this region every day
- 90% oil is transported to Japan via this straits.
- 50% crude oil trading passing through this straits.
- 25% world trade is following from/to Korea.

4. Project Technical Specification

No.	Facilities	Unit	Short Term (Phase I) (2017-2021)	Medium Term (Phase II) (2017-2026)	Long Term		
					(Phase III) (2017-2031)	(Phase IV) (2017-2041)	(Phase V) (Over 2042)
FACILITIES							
1	Wharf	km	2	4	5.5	7	9.5
2	Trestle	km	1.5	1.5	1.5	1.5	5.7
3	Container Yard	Hs	70	140	192,5	245	320
4	Breakwater	m	2.85	4.6	6.1	7.75	9.75
5	Dredging (Basin)	m^3	-	715.540,67	4,23 million	7,2 million	11,4 million
6	Access Road	m	11.47	11.47	11.47	11.47	13,549
EQUIPMENT							
1	Quay Crane	unit	15	32	43	52	76
2	RTG	unit	49	112	147	182	186
3	Head truck	unit	70	160	210	260	380
4	Chasis	unit	89	201	265	327	477
5	Reach Stacker	unit	7	15	20	25	26
6	Forklift	unit	13	29	38	47	48

5. Environmental Impact Assessment (AMDAL) Findings

The activities of Kuala Tanjung Hub Port and the development of various types of industries in this area have an impact on the quality of environmental parameters. It will affect the quality of ambient air, sea water, flora / fauna and the health of people who live around this area. Further, shipping safety and oily liquid substance pollution from sea transportation shall be managed.

6. Land Acquisition and Resettlement Action Plan

Kuala Tanjung Hub Port Development for transshipment of containers and dry bulk terminal will be done by reclaiming land scorched; this is due to get the depth of the sea with draft + 17 m LWS. Besides, the container terminal transshipment will be done by reclaiming an area of 983 hectares and the dry bulk terminal needs 133 Ha, the quarry for reclamation came from Bagan Asahan River located in Asahan.

7. Project Structure

TOTAL INVESTMENT : USD 3.67 Million

- Phase I : 1.02 Million USD
- Phase II : 0.40 Million USD
- Phase III : 0.67 Million USD
- Phase IV : 0.66 Million USD
- Phase V : 0.92 Million USD (Depend on Demand)

FINANCIAL SCHEME	Scheme: Private 73.4% with Gov Support 26.6%				
		BC	Rev -10%	Cost +10%	Rev -10%; Cost +10%
	IRR	16.07%	11.91%	15.27%	11.40%
	Eq IRR	20.37%	17.51%	19.54%	16.81%

8. Government Support and Government Guarantee

Based on study, indicated Government financial support will contribute to proportion of investement costs. However, the necessity and applicability of the government support and guarantee will be identified and specified in the subsequent studies.

9. Project Implementation Schedule

10. Contact Information

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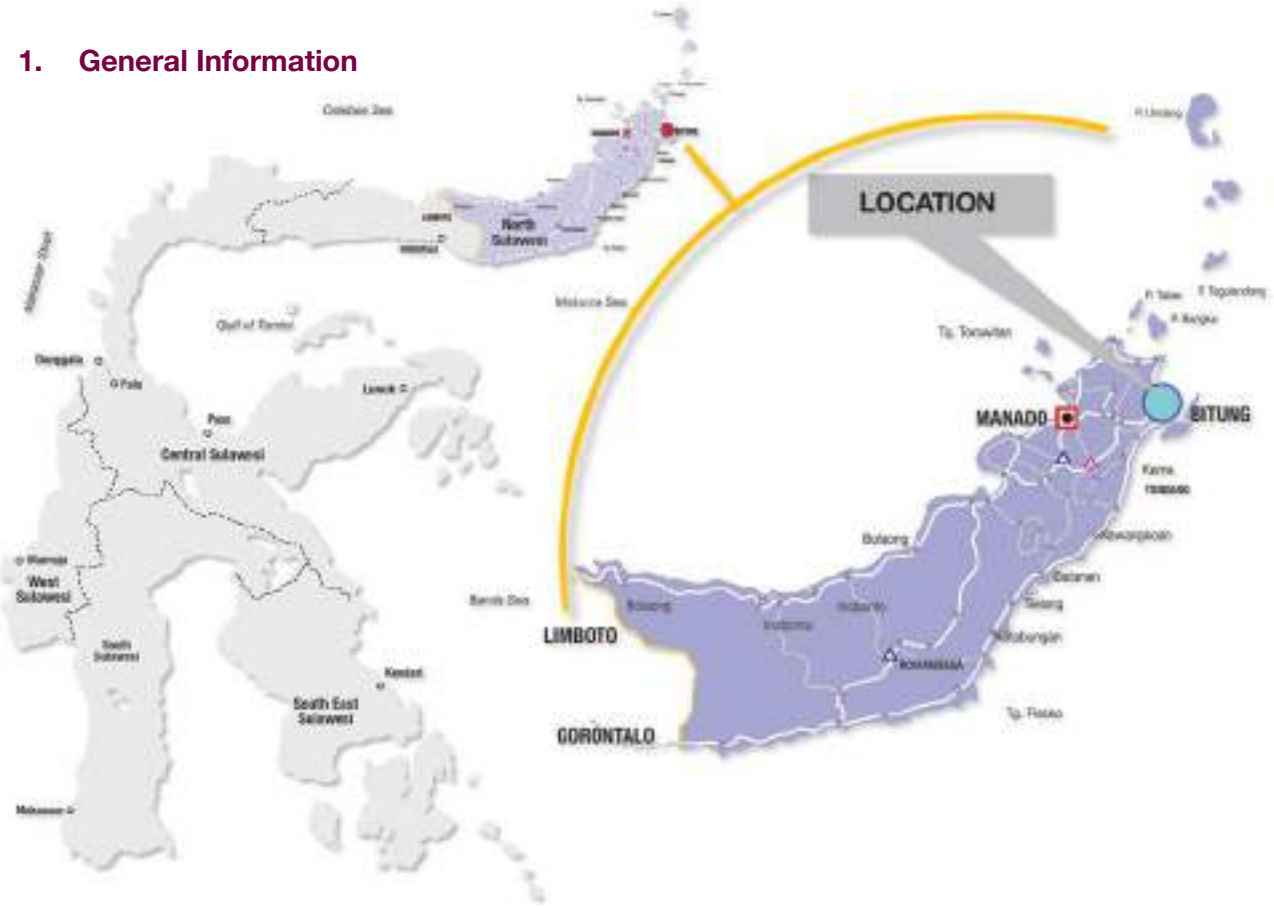
DEVELOPMENT OF BITUNG INTERNATIONAL HUB PORT, NORTH SULAWESI

1. General Information



Government Contracting Agency	:	Ministry of Transportation
Implementing Unit	:	Bitung Harbour Master and Port Authority
Preparation Agency	:	Ministry of Transportation
Estimated Project Cost	:	USD 532.00 million
Estimated Concession Period	:	50 - 70 years
Location	:	Bitung, North Sulawesi

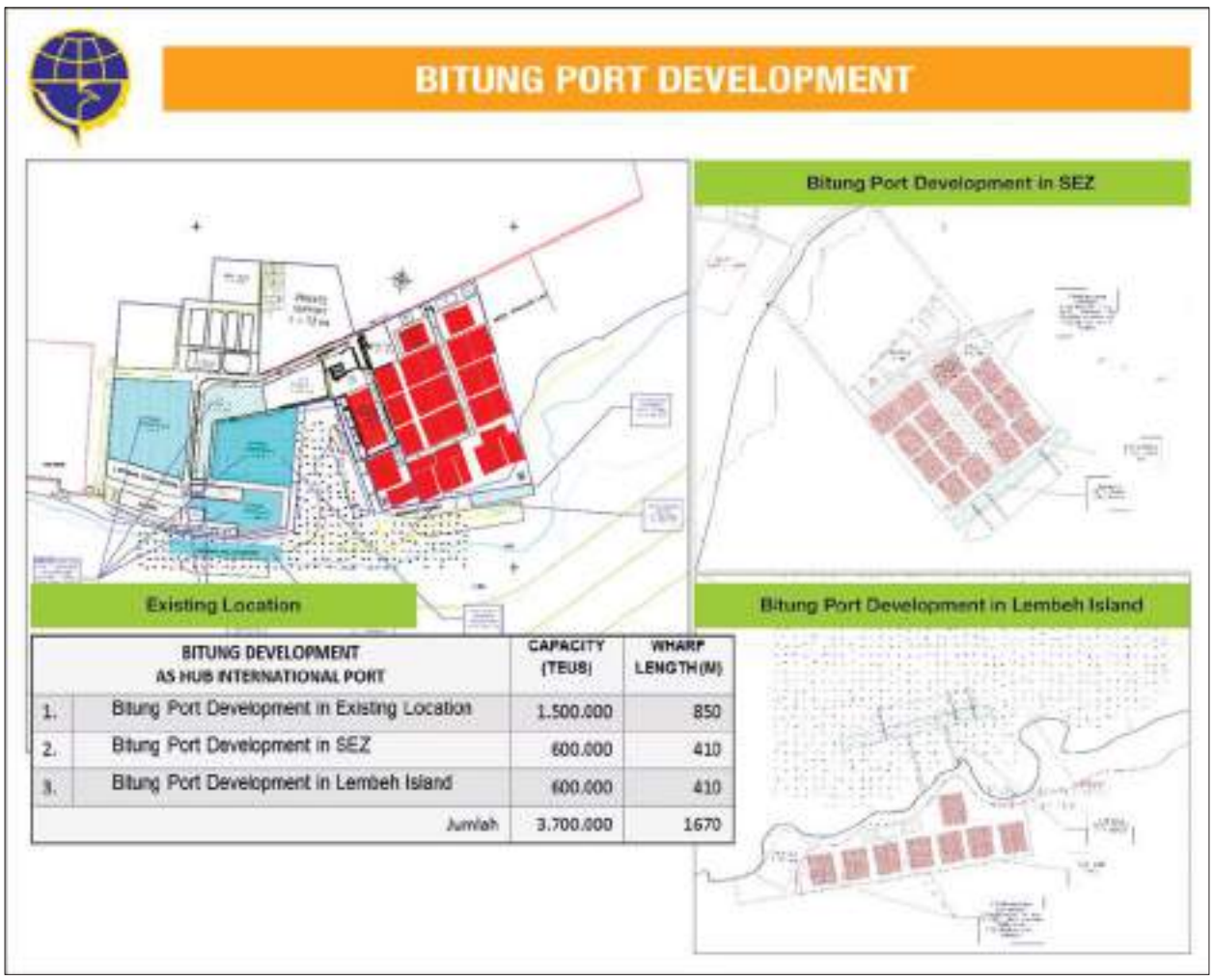
2. The Opportunity

2.1. Project Background

Existing Bitung Port is located in Bitung City, North Sulawesi. The container terminal have dock area of 591 meters, CY of 5.5 hectares, 4 units container cranes (CC), and 8 units Rubber Tyred Gantry (RTG).

Bitung port was chosen as an International Hub Port in the Eastern Region of Indonesia with the following considerations from dynamics of logistic in the Eastern Region of Indonesia are expected to grow exponentially according to its potential.

The extension of Bitung Port will be developed in long term at Bitung Special Economic Zone (SEZ) area and Lembeh Island. This port will support the development of Bitung Special Economic Zone (SEZ), which is declared as one of the Government of Indonesia's priorities. In addition, the existence of Bitung International Hub Port will also support industrial activities in the eastern region of Indonesia, including Ambon and Ternate (for agriculture, industry and mining) as well as Samarinda, Balikpapan, Tarakan and Nunukan (for coal, petroleum and plywood).



	BITUNG DEVELOPMENT AS HUB INTERNATIONAL PORT	CAPACITY (TEUS)	WHARF LENGTH (M)
1.	Bitung Port Development in Existing Location	1.500.000	850
2.	Bitung Port Development in SEZ	600.000	410
3.	Bitung Port Development in Lembeh Island	600.000	410
	Jumlah	3.700.000	1670

2.2. Project Description

Based on its potential hinterland, Bitung International Hub Port will be developed as a hub port to handle liquid bulk cargo (CPO), dry bulk cargo, general cargo, and container.

The hinterland of Bitung International Hub Port includes Ambon and Ternate (Agriculture, industry & mining product), East Kalimantan (Samarinda, Balikpapan, Tarakan, dan Nunukan) also has significant contributions for cargo to Bitung International Hub Port such as world products, coal, oil & containerization plywood.

2.3. Project Objectives

The main objectives of the project are as follows:

- To distribute of goods in Eastern Indonesia
- As the export port for the commodities Eastern Indonesia

3. Business Entity's Opportunity

Northern Sulawesi has nearly all the assets and access to set itself to be center of global growth. Sulawesi economics corridor focuses on the major economic activities of agriculture food, cocoa, fisheries, nickel, and oil and gas. In addition, the main economic activities of oil and gas can be developed with the potential to become the engine of economic growth in this corridor. Sulawesi economics corridor has GDP in 2010 with amount of US$ 17.3 billion and capita income in the average of US$ 998. Government projected Sulawesi to have GDP in the amount of US$ 87.91 billion in 2014.

4. Project Technical Specification

BITUNG DEVELOPMENT AS HUB INTERNATIONAL PORT		CAPACITY (TEUS)	WHARF LENGTH (M)
1	Bitung Port Development in Existing Location	1.500.000	850
2	Bitung Port Development in SEZ	600.000	410
3	Bitung Port Development in Lembeh Island	600.000	410
TOTAL		**3.700.000**	**1670**

5. Environmental Impact Assessment (AMDAL) Findings

The project is classified require subsequent study. Initial environmental examinations have indicated that Bitung International Hub Port activities will affect to environmental parameter quality. If the impacts are not managed properly, it will affect the quality of ambient air, sea water as well as flora/fauna and the health of surrounding communities. Further, the shipment traffic would be affect shipping safety and oily liquid substance pollution from sea transportation.

6. Land Acquisition and Resettlement Action Plan

The detail information related to the land acquisition and resettlement plan will be provided in the subsequent studies.

7. Project Structure

Estimated project cost	USD 532.00 million
Indicative debt to equity ratio	
- Debt level	70%
- Equity level	30%
FIRR	13%

8. Government Support and Government Guarantee

The necessity and applicability of the specific government support and guarantee will be identified and specified in the subsequent studies.

9. Project Implementation Schedule

10. Contact Information

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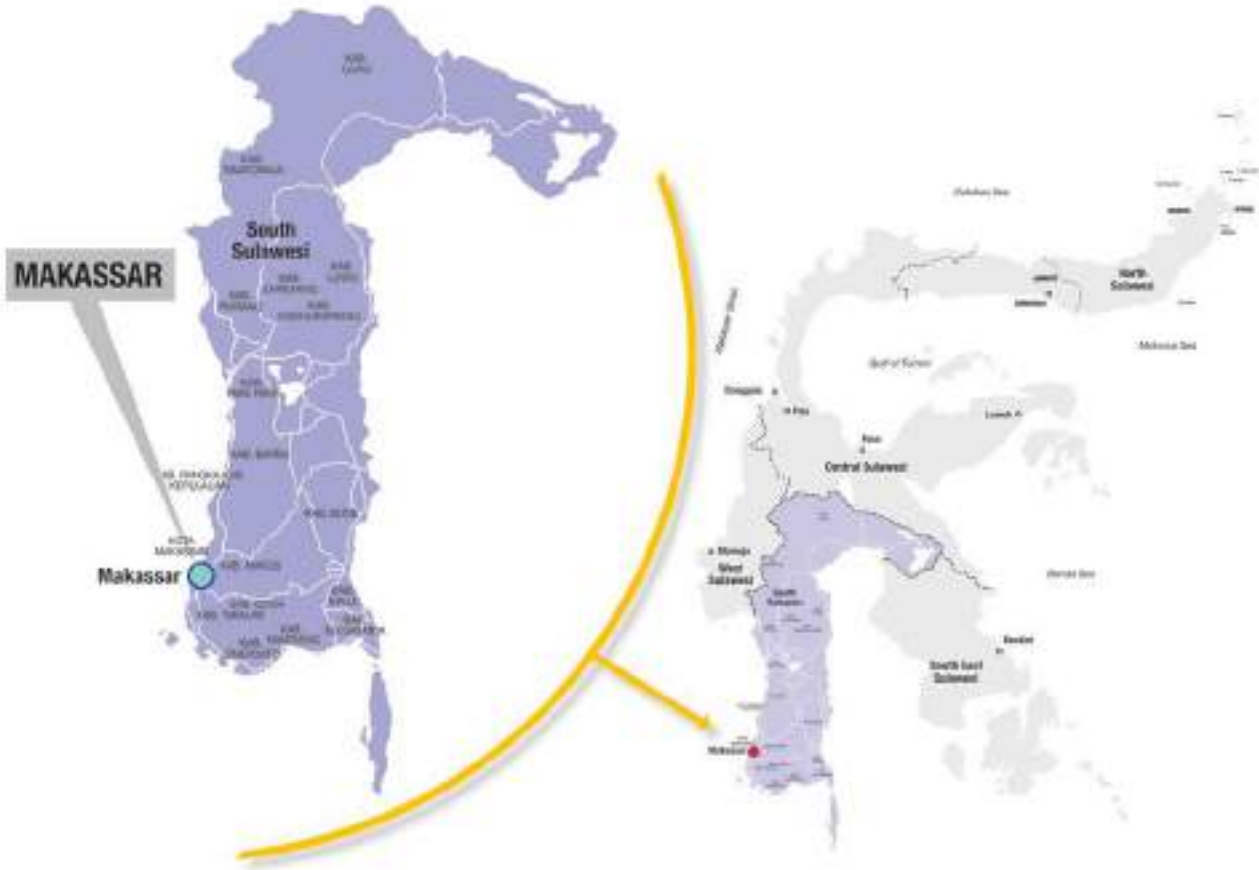
DEVELOPMENT OF MAKASSAR NEW PORT, SOUTH SULAWESI

1. General Information



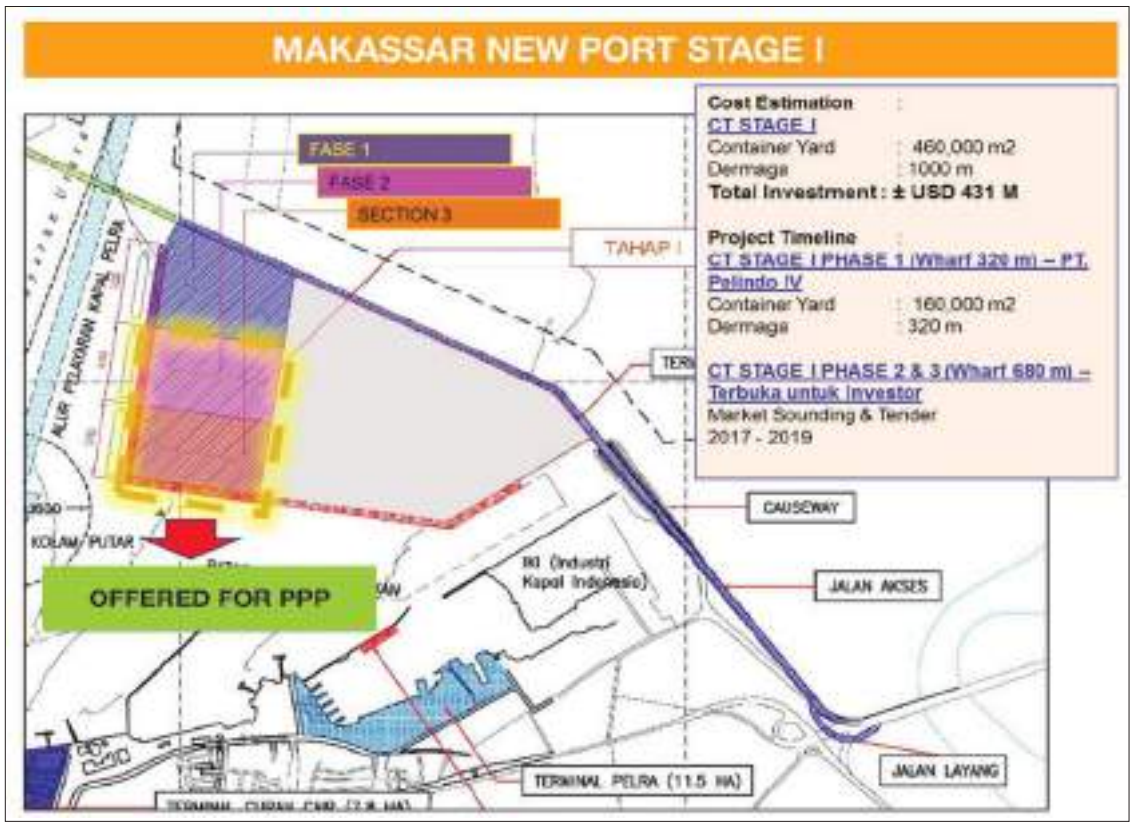
Government Contracting Agency	:	Ministry of Transportation
Implementing Unit	:	Makassar Port Authority
Preparation Agency	:	Ministry of Transportation
Estimated Project Cost	:	USD 416.00 million
Estimated Concession Period	:	72 years
Location	:	Makassar, South Sulawesi

2. The Opportunity

2.1. Project Background

Makassar Port, located at waterfront of Makassar Strait, has been designated as Indonesia Archipelagic Sea Lanes. The strategic location, supported by natural resources and skilled human resources, allows this area grow on par with other provinces in Indonesia. Economic growth in South Sulawesi Province is quite stable, with an average of above 7%, followed by growth of freight and passenger in Makassar Port. The freight and passenger in

Makassar port were grown significantly (above 10%) within the last 5 years. The condition causes increasing density of goods flow and ship visits in existing Makassar Port, especially containers.



2.2. Project Description

The Makassar New Port is developed as container terminal. The development is divided into 3 phases, as follow

1. Phase 1

There will be 3 new docks with total length 750 m in length. This phase is prepared for construction of container of terminal with capacity up to 1,030,000 TEUs per year. A construction of access toad, container stacking yard and related building facilities is needed for the development of this phase.

2. Phase 2

Additional container terminal provision, in the form of reclamation and construction of container terminal facilities on 30 ha of area. Facilities prepared in this phase including a dock with length 250 m, container stacking yard, and related supporting building.

3. Phase 3

Additional container terminal provision, in the form of reclamation for 30.8 ha of container terminal facilities and 5.8 ha of Roll On – Roll Off (Ro-Ro) terminal. Facilities prepared in this phase are 4 container docks with length 3x250 m and 1 Ro-Ro dock with length 300 m, container stacking yard, field for Ro-Ro, and related building facilities.

2.3. Project Objectives

The objectives of development of Makassar New Port are as follows:

- To support the existing Makassar Port
- To serve container terminal activities, both domestic and international containers.
- To accommodate demand growth until 2032

3. Business Entity's Opportunity

Private partner may contribute in joining the operation and maintenance in order to support port activities to pursue development of Makassar New Port.

4. Project Technical Specification

No.	Facilities	Unit	Development Phases		
			Status in Phase 1	Status in Phase 2	Status in Phase 3
Main Facilities					
1.	Container Terminal Area	ha	46	76	106
2.	Container Dock	mooring	1,000 m	1,250 m	2,184 m
3.	Ro-ro dock	mooring	-	-	309 m
4.	Breakwater	m	2,362	2,362	2,362
5.	Ro-RO Terminal Area	ha	-	-	5.8
6.	Dredging up to 14m	ha	36	62	89
7.	CFS area	m^2	2,200	2,200	2,200
8.	CFS truck parking area	m^2	12,000	12,000	12,000
Supporting Facilities					
9.	Flyover	m	1,700	1,700	1,700
10.	Land access road	m^2	41,400	41,400	41,400
11.	Neighborhood road	m^2	210,000	210,000	210,000
12.	Container operational office	m^2	1,000	2,000	2,000
13.	Workshop	unit	1	1	1
14.	Gate	unit	1	1	1
15.	Supporting facilities area	m^2	5,000	5,000	5,000
Tools and Equipment					
16.	Quay Crane	unit	4	13	37
17.	RTG Crane	unit	16	52	148
18.	Head truck	unit	32	104	224
19.	Chassis	unit	40	120	250
20.	Reach stacker	unit	3	6	9
21.	Forklift	unit	3	6	9

5. Environmental Impact Assessment (AMDAL) Findings

Environmental Impact Assessment (AMDAL) permit has been obtained but need to be extended.

6. Land Acquisition and Resettlement Action Plan

The information related to the land acquisition and resettlement will be provided in the subsequent studies. However, the initial stage of the studies stated that it is expected that local government in Makassar will contribute for the land acquisition and access road.

7. Project Structure

Estimated project cost	USD 416.00 million
Indicative debt to equity ratio	
- Debt level	70%
- Equity level	30%

8. Government Support and Government Guarantee

The necessity and applicability of the specific government support and guarantee will be identified and specified in the subsequent studies.

9. Project Implementation Schedule

10. Contact Information

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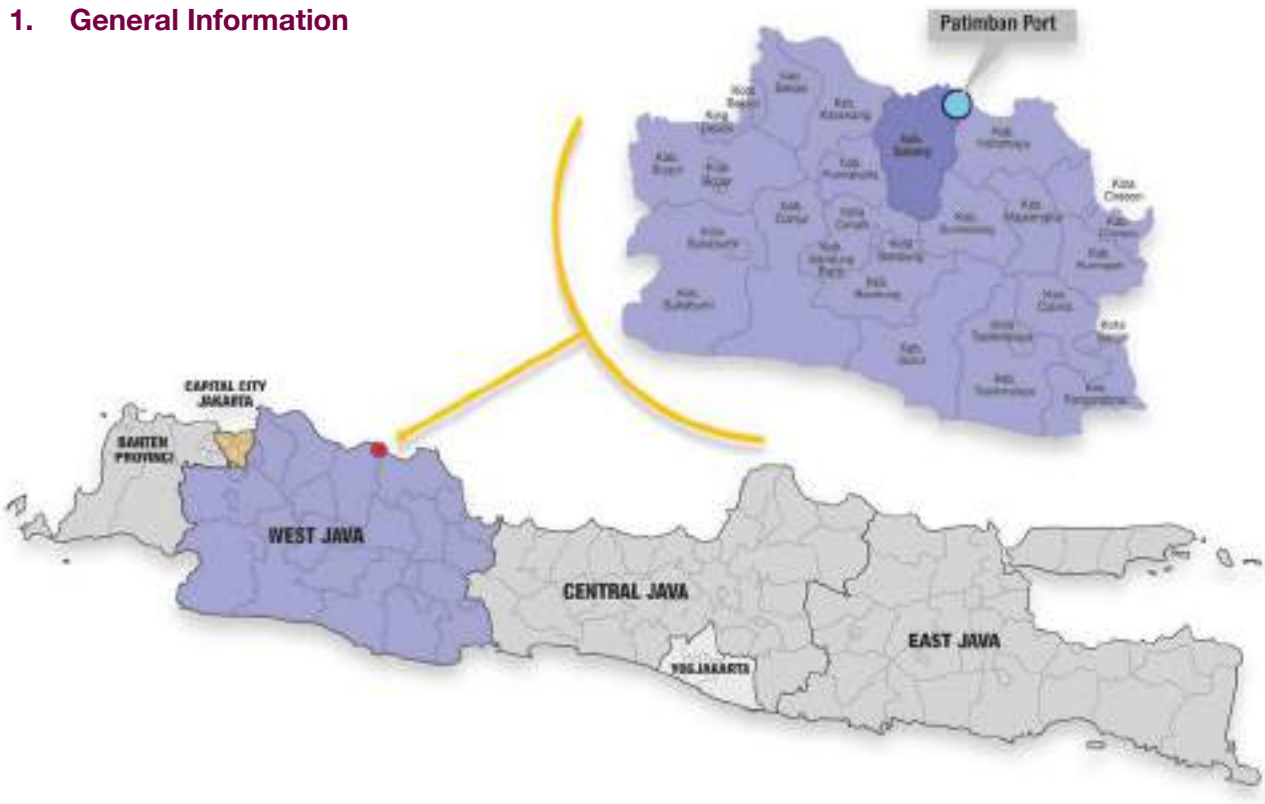
DEVELOPMENT OF PATIMBAN PORT, WEST JAVA

1. General Information



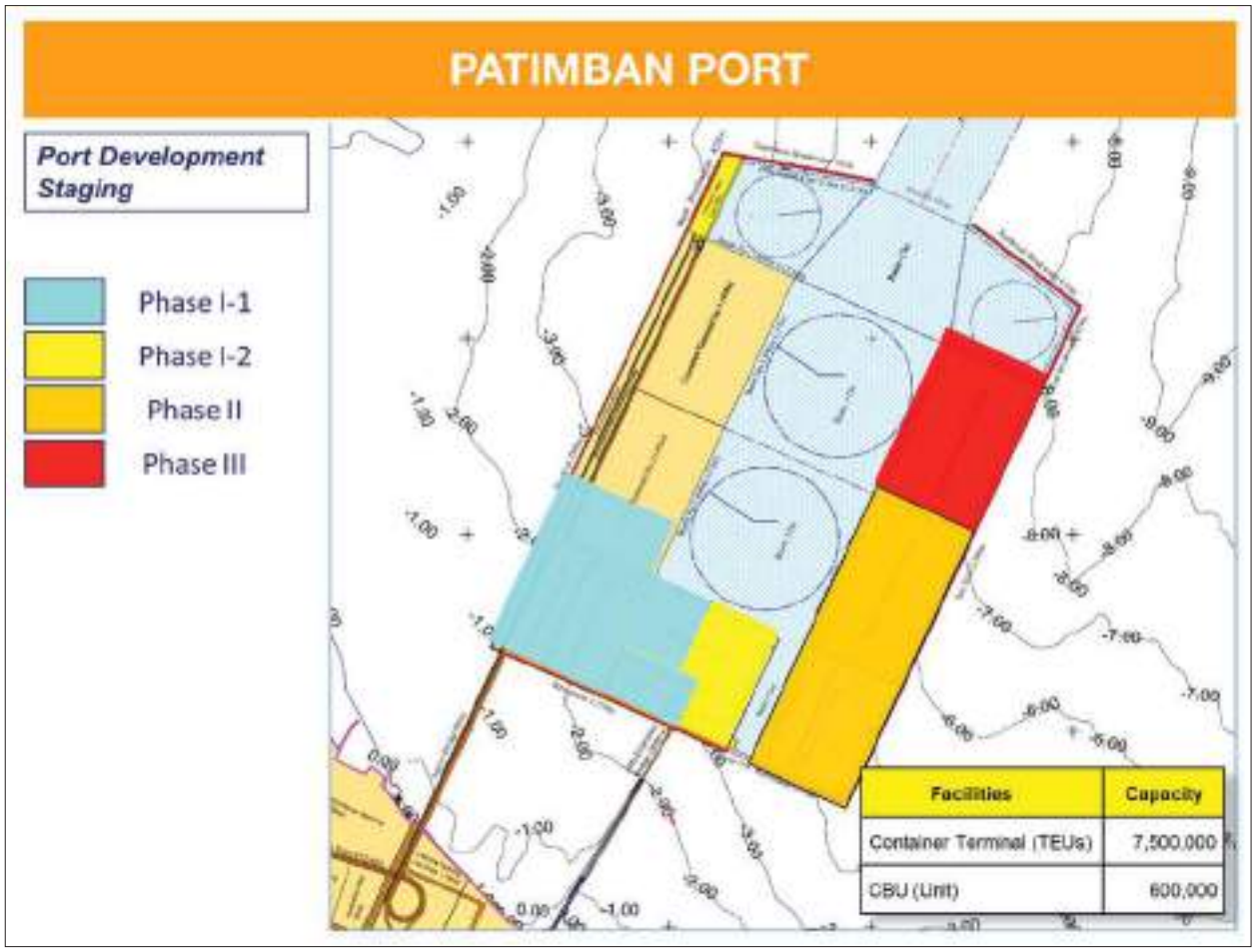
Government Contracting Agency	:	Ministry of Transportation
Implementing Unit	:	Directorate General of Sea Transportation
Preparation Agency	:	Ministry of Transportation
Estimated Project Cost	:	USD 3,203.00 million
Estimated Concession Period	:	40 years
Location	:	Subang, West Java

2. The Opportunity

2.1. Project Background

Government of Indonesia has officially declared the Patimban Port in Subang (West Java) as a national strategic project through Presidential Decree No. 47/2016, signed by Indonesian President Joko Widodo. This declaration implies that the project is regarded as priority project that benefits the economy and society as a whole. The priority status further means that all ministers, government agencies and governors need to support the development of the project.

The decree also mandates Indonesia's Ministry of Transportation to handle the development of the USD $3.1 billion seaport project in collaboration with a port operator.



2.2. Project Description

The new seaport in Patimban, a two-hour drive from the Cikarang industrial complex, thus superseded an earlier plan to build a deep sea port in nearby Cilamaya. Cilamaya is 30 minutes closer to Cikarang, but government change the plan to build a port as the construction work may interfere with oil and gas lines in and around the area.

The proposed Patimban port will have a capacity of 7.5 million twenty feet equivalent units (TEUs) by 2037, providing support for trading activities in Java, the country's most populated island and center of its manufacturing activities.

2.3. Project Objectives

The development will provide added value to the economy of West Java, particularly Subang, as it would provide employment opportunities. Consequently, industrial players in West Java will also get an alternative port and this will cut transport costs compared transportation from the Port of Tanjung Priok.

3. Business Entity's Opportunity

The future Patimban Port will be located about 70 kilometers from the Karawang Industrial Estate and Bekasi in West Java. It will have a container capacity of 1.5 million 20-foot equivalent

units (TEUs) once it is partly completed by 2019 and will be expanded to 7.5 million TEUs by 2027, which is half of the Tanjung Priok Port's capacity. Private partner may contribute to finance, design and construction of the project.

4. Project Technical Specification

PHASE 1 (STAGE 1)	PHASE 1 (STAGE 2)	PHASE 2	PHASE 3
• CONTAINER TERMINAL 300 M (CAPACITY 250,000 TEUS) • CAR TERMINAL 250 M (CAPACITY 217,391 CBU) • BACKUP AREA 356 HA	• CONTAINER TERMINAL 1860 M OF TOTAL 2160 M (CAPACITY 3,500,000 OF TOTAL 3,750,000 MILLION TEUS) • CAR TERMINAL 440 M OUT OF 690 M (CAPACITY 382,609 OF TOTAL 600,000 CBU) • RORO TERMINAL 200 M • STATE SHIPS	• CONTAINER TERMINAL 840 M OF TOTAL 3000 M (CAPACITY 1,458,333 OF TOTAL 5,208,333 TEUS) • STATE SHIPS TERMINAL 630 M OF TOTAL 980 M	• CONTAINER TERMINAL 1320 M OF TOTAL 4,320 M (CAPACITY 2,291,667 OF TOTAL 7,500,000 TEUS)

5. Environmental Impact Assessment (AMDAL) Findings

Based on the points concerning the sea transportation sector, this project is classified to require an Environmental Impact Assessment (AMDAL), Environmental Management Plan and Public Consultation.

6. Land Acquisition and Resettlement Action Plan

From the results of studies of the Land Acquisition Planning Document Preparation Patimban Port Development, it is known that the land in the Port Patimban consists of fields, rice paddies, ponds, roads, cemeteries, settlements, irrigation and river.

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7. Project Structure

INVESTMENT	Phase 1 (Stage 1)	USD 1,306.00 million
	Phase 1 (Stage 2)	USD 1,049.00 million
	Phase 2	USD 562.00 million
	Phase 3	USD 286.00 million
	Total Investment	USD 3,203.00 million
	Indicative debt to equity ratio	
	- Debt level	80%
	– Equity level	20%
	– FIRR	10.35%

8. Government Support and Government Guarantee

Based on study, indicated Government financial support need from Capital Expenditure. The necessity and applicability of the specific government support and guarantee will be identified and specified in the subsequent studies.

9. Project Implementation Schedule

10. Contact Information

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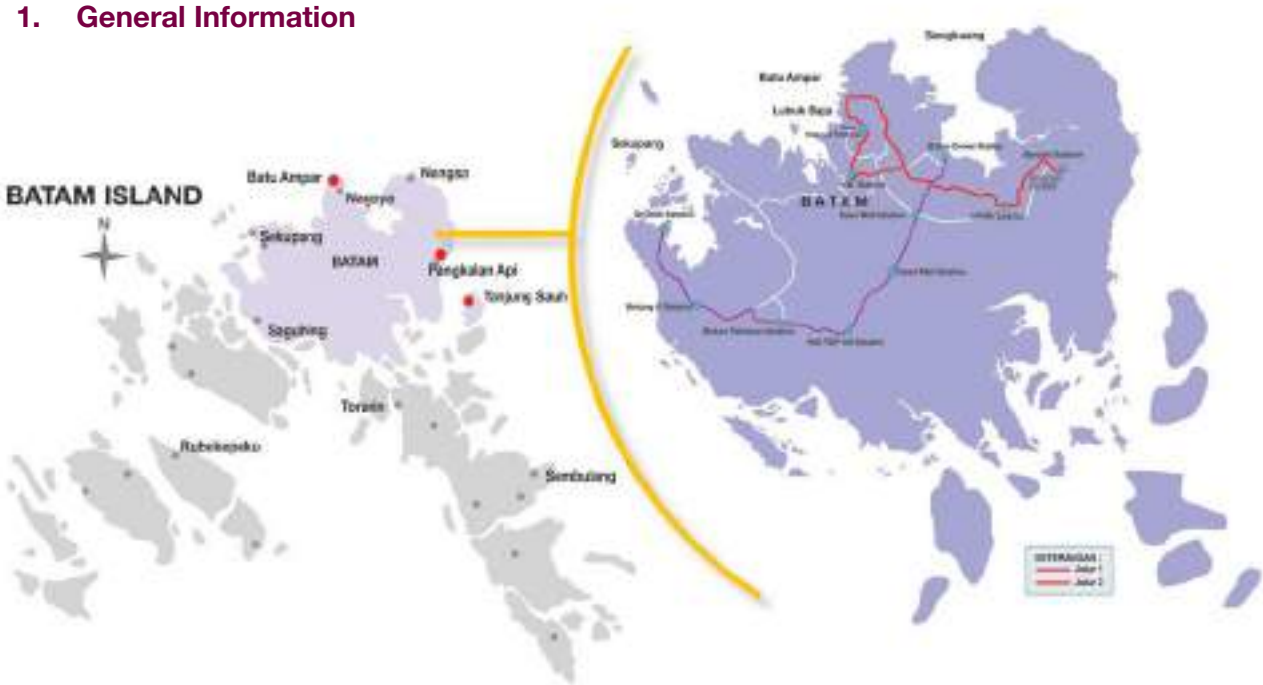
BATAM ISLAND RAILWAY, RIAU ISLANDS

1. General Information



Government Contracting Agency	:	Batam Indonesia Free Zone Authority (BIFZA)
Implementing Unit	:	Batam Indonesia Free Zone Authority (BIFZA)
Preparation Agency	:	Batam Indonesia Free Zone Authority (BIFZA)
Estimated Project Cost	:	USD 635.00 million
Estimated Concession Period	:	49 years
Location	:	Batam, Riau Islands

2. The Opportunity

2.1. Project Background

Batam as an area for free port, industries, and tourism, plays a very important role in the development of Indonesia. By the end of 2012, the number of population in Batam has reached 1,235,651 people which distributed evenly in the city of Batam, and with a total number of manpower 335,562 people which mostly work in industrial sector.

BP-Batam has duty to provide infrastructures and facilities such as transportation, housing, health care and others, in order to support industrial activities in Batam.

To meet the transportation needs in line with the growth of population, there is a demand to build monorail line that will connect various areas in Batam.

2.2. Project Description

The Batam LRT will connect Batam Centre area to Tanjung Uncang area via Muka Kuning area (phase-1) and for the next phase, Batam LRT line would link to Batu Ampar area and Batam Hang Nadim International Airport.

2.3. Project Objectives

The purpose of the project is to provide a safe, fast and convenience public mass transportation in Batam and to reduce the economic losses due to traffic congestion which the value of time, fuel costs and health costs.

3. Business Entity's Opportunity

Build, Operate and Transfer (BOT). The cost was borne by business entites or can be borne jointly depend on agreement that has been agreed and at the end of the contract period BIFZA will acquire buildings and other facilities such as infrastructure and facilities of Batam, Light Rail Transit (LRT).

4. Project Technical Specification

The technical specifications for Batam Island Main Railways are as follows:

- Line I: Batam Centre – Tanjung Uncang

  LRT Train = 4 unit
  LRT Line = 27.54 km
  LRT Station = 19 station

- Line II: Batu Ampar – Batam Hang Nadim International Airport

  LRT Train = 4 unit
  LRT Line = 27.93 km
  LRT Station = 25 station

5. Environmental Impact Assessment (AMDAL) Findings

The project is classified to require an Environmental Impact Assessment (AMDAL), Environmental Management Plan and Public Consultation. Initial environmental examinations have indicated that the project will be facing several impacts like spatial and land use conflict potential, pollution, and traffic disruption.

6. Land Acquisition and Resettlement Action Plan

Related with the acquisition of land for Batam LRT project, it has been identified that the land will be used completely owned by BIFZA. Thus there is no land acquisition process undertaken in the preparation of the Project. However, it should be ascertained more on the right base on land used by enterprises considering this will affect the structure of the transaction were organized in the Project.

In the project execution above, there are assets that will be used to review the implementation of the project from BIFZA. The assets will be used is a form of land consisting of the plot for review facilities, and plot for review purposes managed existing commercial enterprises. The land assets in basically seen as the State Property in Indonesia based on article 4, Minister Regulation of Finance Number 164/2014.

7. Project Structure

Estimated project cost	USD 635.00 million
O&M	USD 2,176.00 million
FIRR	14,17%

8. Government Support and Government Guarantee

The support for the project in the form of land acquisition and other required document preparation shall be implied by the local government. To mitigate the project's risks from changes in demand risk and shifts in political scenario, government guarantee may be required. In this regard, the level of risk perceived from investors will be determined at market sounding.

9. Project Implementation Schedule

10. Contact Information

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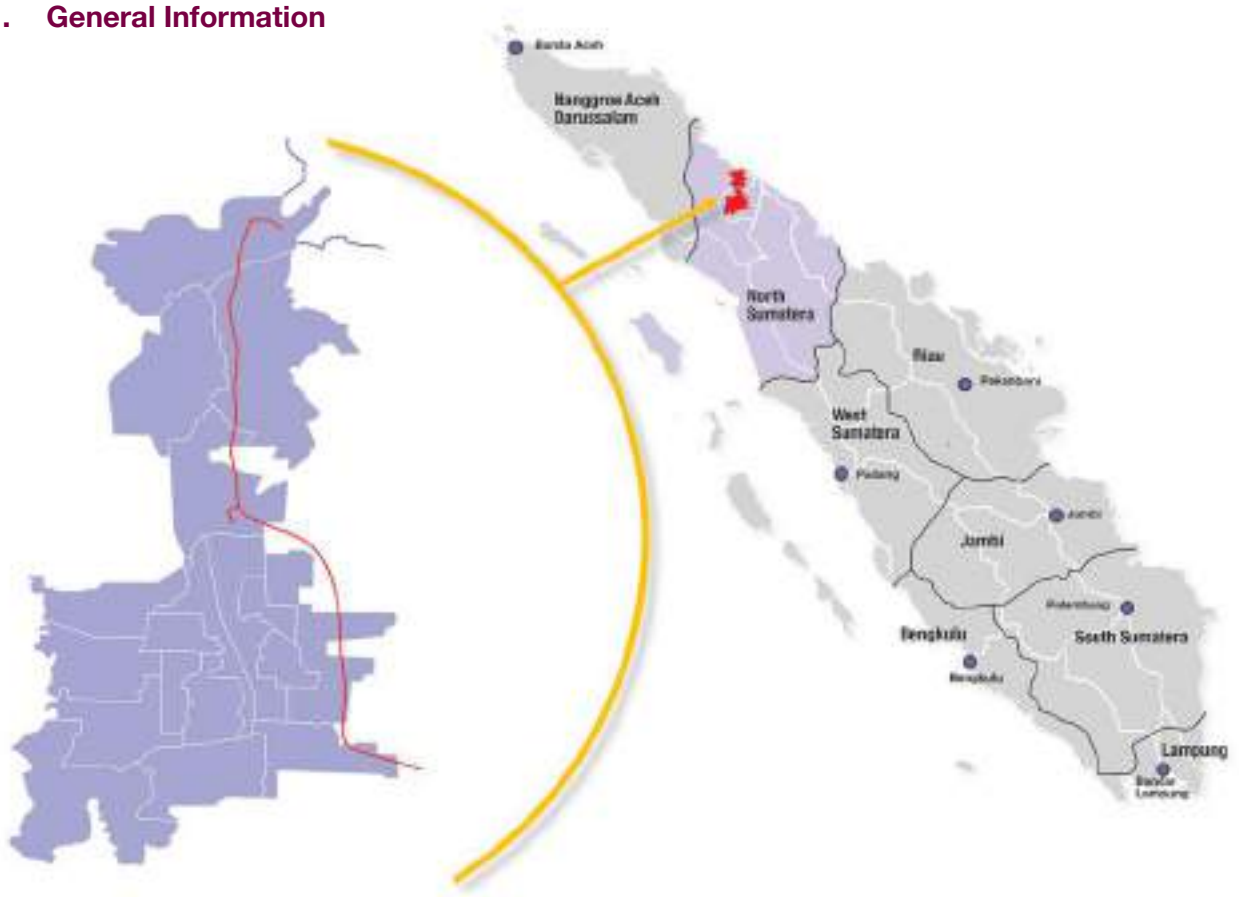
URBAN RAILWAY CITY OF MEDAN, NORTH SUMATERA

1. General Information



Government Contracting Agency	:	Mayor of Medan
Implementing Unit	:	Local Development Planning Agency, City of Medan
Preparation Agency	:	1. Local Development Planning Agency, City of Medan 2. Ministry of National Development Planning
Estimated Project Cost	:	USD 477.40 million
Estimated Concession Period	:	35 years
Location	:	Medan, North Sumatera

2. The Opportunity

2.1. Project Background

Medan is the capital city of North Sumatera Province – a growing city in term of population and economic development. It has 265.10 km^2 area with density about 8,008 inhabitants/ km2 which ranked 15th for the highest dense city in Indonesia. The people of this city still rely on their mobility through private vehicles and road sector. From the total of existing

vehicles in Medan, 408,877 units are private vehicles, 4,523,956 units of motorbike and 26,960 units of becak motor. Only 1% allocated for public transportation such as mini vans and buses.

In order to reduce congestion and improve connectivity in the urban area, the government of Medan city proposes the development of rail transportation. Currently, the city of Medan has existing railway network that connects Medan to others cities and districts in North Sumatera province but urban railway still unavailable. The urban railway will use a light rail system for its technology selection considering its technical – wise and investment cost.

2.2. Project Description

The urban railway will stretch from Southwestern part to Northeastern part of Medan City which accomodate integration between LRT and BRT as shown in the picture below.

2.3. Project Objectives

The project aims to improve accessibility and connectivity in Medan by considering related aspects such as technical, financial, economic and environment.

3. Business Entity's Opportunity

The project still in progress to select a suitable scheme to attract investment, however, an Availability Payment (AP) is proposed for project investment in 10-15 years with end user tariff scheme afterward. Potential revenue generated from farebox and non – farebox revenue such as transit oriented development in the station.

4. Project Technical Specification

The technical specifications for Urban Railway in Medan are as follows:

Width		1067 mm
Maximum design speed		80 km/h
Horizontal Radius		60 m
Minimum curve		15 m
Maximum elevation	lane	110 mm
	platform	70 mm
Minimum vertical radius		1000 m
Maximum slope	lane	40‰
	station	1.5‰
	depo	60‰
Wesel Angle		#10
Track type		Direct Fixation Track

5. Environmental Impact Assessment (AMDAL) Findings

The information related to environmental assessment is not yet decided and will be provided in the subsequent studies.

6. Land Acquisition and Resettlement Action Plan

Pre – feasibility study indicates most of the trace will use Right of Way (RoW) from existing arterial road. The land requirement is about 32 Ha with land acquisition estimated for about 1.20 Ha along the route.

7. Project Structure

No		LRT	BRT	LRT+BRT
1	Interest rate	12,0% p.a	12,0% p.a	12,0% p.a
2	Financial fees	1,1%	1,1%	1,1%
3	Loan Term	20 years	20 years	20 year
4	Grace Period (2)	5 year	3 years	5 year
5	Length	22,74 km	13,40 km	36,10 km
6	Investation/km	USD 15.58 million	USD 2.00 million	USD 17.60 million
7	Total investment	USD 354.30 million	USD 27.67 million	USD 381.00 million
8	IDC	USD 88.00 million	USD 4.60 million	USD 92.60 million
9	Finc Fee	USD 3.50 million	USD 0.30 million	USD 3.80 million
10	**Total investment + IDC**	**USD 445.80 million**	**USD 31.57 million**	**USD 477.40 million**
11	**FIRR**			**12.5%**

8. Government Support and Government Guarantee

The government support and guarantee for this project may be required. More detailed about this matter will be provided in subsequent studies.

9. Project Implementation Schedule

10. Contact Information

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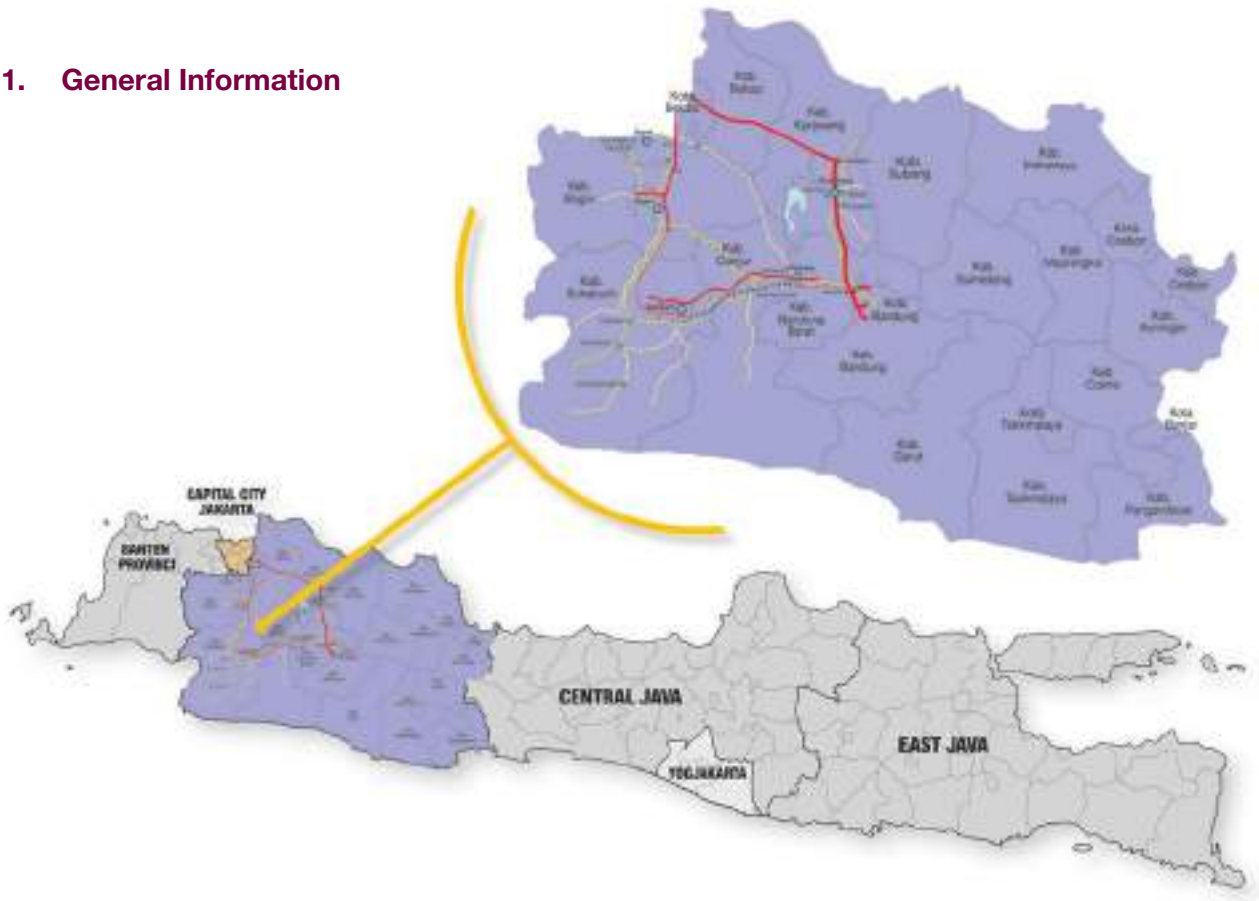
SUKABUMI - CIRANJANG TOLL ROAD

1. General Information



Government Contracting Agency	:	Indonesia Toll Road Authority (BPJT)
Implementing Unit	:	Indonesia Toll Road Authority (BPJT)
Preparation Agency	:	Indonesia Toll Road Authority (BPJT)
Estimated Project Cost	:	USD 103.00 million
Estimated Concession Period	:	35 years
Location	:	West Java

2. The Opportunity

2.1. Project Background

West Java has 8 (eight) main regions, which are Bodebek (Bogor, Depok, Bekasi), Bopunjur (Bogor, Puncak, Cianjur), Sukabumi, Ciayumajakuning (Cirebon, Indramayu, Majalengka, Kuningan), Bandung, Priangan Timur, Pengandaran and Purwasuka (Purwakarta, Subang, Karawang). They have a crucial potential to contribute in economic growth both for those regions and its surrounding. The development of Sukabumi – Ciranjang Toll Road has significant impact on Sukabumi's business within area of agribusiness, tourism and marine business. Furthermore, population in Sukabumi is increasing because of the incoming

commuters during the weekend since there are tourism attraction such as Situ Gunung, Halimun Mount, Cikembang Beach, and various waterfall as locals say “Curug”. As a result, Sukabumi needs additional road that could anticipate further congestion traffic problem.

2.2. Project Description

Sukabumi – Ciranjang Toll Road is planned to be divided into two section: First, Sukabumi – West Cianjur along 15,15 km (Sta. 52+800 – Sta. 67+950) which directly connected with Sukabumi – Cianjur – Bandung road. Second, Cianjur Barat – Ciranjang section (Sta. 67+950 to Sta 80+800) which connected with artery road Cianjur and Bandung.

2.3. Project Objectives

The project will support West Java Province to develop economic growth and to reduce poverty. The Project will fulfill the need of public transportation system and create an integrated road system in Java Island.

3. Business Entity’s Opportunity

The benefits of the construction on Sukabumi Ciranjang Toll road cover benefits to society that will shorten both distance and travel time between Sukabumi and Ciranjang. For provincial government of West Java, it will increase its original Regional Revenue. Finally, privates will gain the revenue from toll users. Moreover, the feasibility study shows this project indicates feasible financially.

Financial Feasibility

No.	Parameter	Value
1.	IRR	15.26%
2	NPV	USD 3.5 million

4. Project Technical Specification

The technical specifications for Sukabumi - Ciranjang Toll Road are as follows:

Length (Sta 53+500 to Sta 81+300)	27.8 km
Design Speed	80 – 100 km/hour
Total ways and lanes	
- Initial Phase	2 @ 2 X 3.6 M
- Final Phase	2 @ 2 X 3.6 M
Road Side	
- Initial Phase	

Outer Roadside	2 @ 3.00 m
Inner Roadside	2 @ 1.50 m
- Final Phase	
Outer Roadside	2 @ 3.00 m
Inner Roadside	2 @ 1.50 m
Median	
- Initial Phase	9.70 m to 12.7 m
- Final Phase	2.50 m to 4.3 m
Design Life	20 years

5. Environmental Impact Assessment (AMDAL) Findings

The Environmental Impact Assessment is required for this project based on Government Regulation 27/2012. However, major impacts of the toll road project are:

- Noise level increase
- Traffic around location
- Decreasing air quality, underground water quality, and river quality
- Disruption on vegetation and fauna habitat
- Social perception and conflict
- Disruption on land structure

6. Land Acquisition and Resettlement Action Plan

Land Acquisition process has not been started yet. It is predicted to spend USD 10 million to held land procurement including building, plants and utilities.

7. Project Structure

Estimated project cost	USD 103.00 million
Indicative debt to equity ratio	
- Debt level	70%
- Equity level	30%

8. Government Support and Government Guarantee

Detail assessment of the government support and guarantee, in terms of form and scale, for the project is needed. It will be identified and specified in the subsequent studies.

9. Project Implementation Schedule

10. Contact Information

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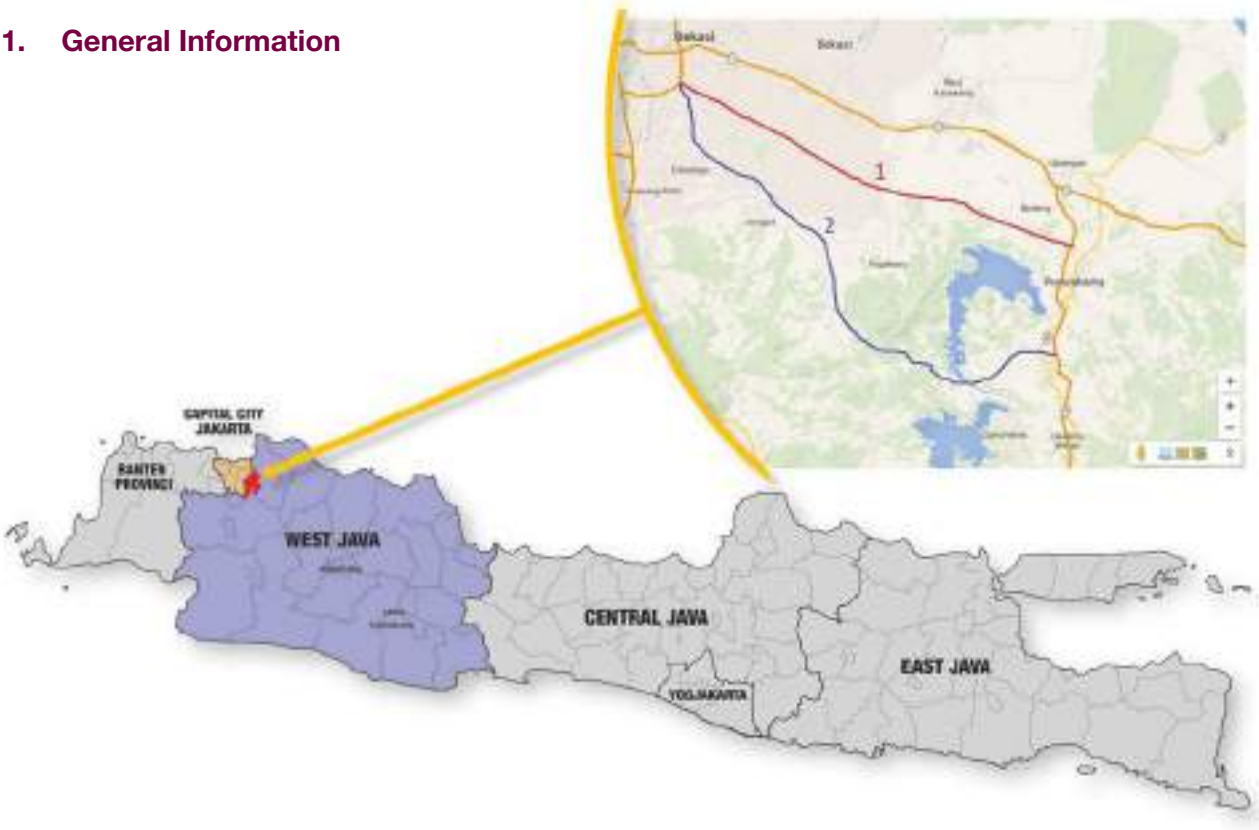
THE 2ND JAKARTA – CIKAMPEK TOLL ROAD

1. General Information



Government Contracting Agency	:	Indonesia Toll Road Authority (BPJT)
Implementing Unit	:	Indonesia Toll Road Authority (BPJT)
Preparation Agency	:	Indonesia Toll Road Authority (BPJT)
Estimated Project Cost	:	USD 834.00 million
Estimated Concession Period	:	30 – 35 years
Location	:	Bekasi, West Java

2. The Opportunity

2.1. Project Background

The existing Jakarta - Cikampek toll road extends eastward, which constructed since 1988, is part of Java Island road network that connect DKI Jakarta and Jakarta Outer Ring Road Toll Road as well as other area in Bekasi and Karawang. The industrial estates development in Bekasi, Cikarang and Karawang have created disturbance and barriers to the transportation flow around toll road. As result, traffic congestion which occurs in this area and its surrounding areas has directly impacted to the mobility in the region which has gone down as well as efficiency in the performance of economic activities. However,

the traffic has increased rapidly and has already reach the road capacity. The 2nd Jakarta – Cikampek Toll Road will create a new transport route and will not pass through the congested central Jakarta area. This makes the industrial area more attractive to investors and to improve the connectivity within the region.

2.2. Project Description

The route of 2nd Jakarta – Cikampek Toll Road is proposed at south of existing Jakarta – Cikampek Toll Road to avoid paddy field that spread widely in the north side. The initial section of the toll road alignment is starting from JORR section, going parallel to the existing toll road and connecting to Cipularang Toll Road with total length approximately 62 km. The end point is proposed at the crossing point to Cipularang Toll Road, in the south of Indotaisei Industrial Estate.

One of the attractive point for development of this toll road is it will have tremendous facilities, such as development of residential area and commercial areas along the corridor. In order to facilitate and manage high traffic growth and smoothen people's movement in this corridor, a scheme of Transit Oriented Development that integrates low cost residential area, commercial area and access to public transport will be proposed to be developing in this area.

There will be BRT system, which proposed by DKI Jakarta Government, on this corridor to maximize access to public transport. It is expected to connect the existing bus routes such as Trans Jakarta in DKI Jakarta.

2.3. Project Objectives

The purposes of this project is to provide efficient transportation system, to support national economic growth, to increase distribution for goods and services, to accommodate traffic growth in Jakarta – Cikampek Toll Road and lastly to reduce people's poverty.

3. Business Entity's Opportunity

As prime opportunity, private shall be partner with government to joining the Build – Operate – Transfer (BOT) scheme. Private partner shall be responsible to perform the toll road project, including financing, engineering design, construction, operation and maintenance of the toll road during concession period. Based on studies, the project hit 16.46% for project IRR.

4. Project Technical Specification

The technical specifications for The 2nd Jakarta – Cikampe Toll Road are as follows:

- The forecast toll tariff of toll road section is Rp. 900/km. It was calculated by financial evaluation.

- Design Speed for Main Road

  The design speed is 100km/h because the target road travels through the intercity and rolling and flat areas.

Estimated project cost	Design Speed (km/hg)	
	Intercity	Inner-city
Flat	120	80 - 100
Rolling	100	80
Hilly	80	60

- Design Speed for Junction

  The design speed of JCT ramps applies the possible lowest speed in order to minimize the influenced are as shown in table. Therefore, design speed is 40 km/h at JCT between the 2nd Jakarta – Cikampek Toll Road and JORR and JORR2 also.

Toll I Design Speed (km.h)	Design Speed (km/hg)			
	120	100	80	60
120	60 - 80			
100	60 - 80	60 - 80		
80	40 - 60	40 - 60	40 - 60	
60	40 - 60	40 - 60	40 - 60	40 - 60

5. Environmental Impact Assessment (AMDAL) Findings

The Environmental Impact Assessment founds major impacts of the project, which are:

- Noise level increase
- Traffic around location
- Decreasing air quality, underground water quality, river quality
- Disruption on vegetation and fauna habitat
- Social perception and conflict
- Disruption on land structure

6. Land Acquisition and Resettlement Action Plan

The total cost for land acquisition and compensation is approximately USD 268.00 million for 378 ha of land and 1793 affected structured. All costs are mainly determined by combining NJOP and market values. However, the detailed LARAP and other studies like socio-economic studies have to be done carefully.

7. Project Structure

	USD million
Civil Works	568.00
Contingency of Civil Works	57.00
Price Escalation of Civil Works	115.00
Engineering Fee	18.00
Total including VAT 10%	**834.00**

8. Government Support and Government Guarantee

The necessity government support and guarantee was identified as follows: project's authorization risk, construction delay risk, and payment risk. However, statement from government to guarantee this project is required.

9. Project Implementation Schedule

10. Contact Information

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TANJUNG PRIOK ACCESS TOLL ROAD

1. General Information

Government Contracting Agency	:	Indonesia Toll Road Authority (BPJT)
Implementing Unit	:	Indonesia Toll Road Authority (BPJT)
Preparation Agency	:	Indonesia Toll Road Authority (BPJT)
Estimated Project Cost	:	USD 281.00 million
Estimated Concession Period	:	30 years
Location	:	DKI Jakarta

2. The Opportunity

2.1. Project Background

DKI Jakarta, as the main social and economic activities in Java Island, has caused traffic congestion on major arterial roads as well as on toll road. Jakarta Outer Ring Road (JORR) is trunk toll road that runs at 10 to 13 km radius from the center of DKI Jakarta encircling the metropolitan area at the west, east and south area. Tanjung Priok Access Toll Road is planned as a part of JORR to replace the N Section. Both JORR and Tanjung Priok Access Toll Road have an essential role for economic and industrial activities in the central district of Indonesia, and are expected to play an integral part of the Jakarta – West Java Toll Road system.

2.2. Project Description

Tanjung Priok Access Toll Road is divided into five construction section:

Section E - 1	3.40 km
Section E - 2	2.74 km
Section E - 2A	1.92 km
Section NS Link	2.23 km
Section NS Direct Ramp	1.10 km

2.3. Project Objectives

The development of Tanjung Priok Access Toll Road is expected:

- To strengthen the road network in Jakarta Metropolitan Area to enhance mobility as full access-controlled expressways;
- To stimulate economic growth through efficient urban activities and prospective development, especially around interchanges and frontage roads;
- To avoid serious traffic congestion, thereby contributing to sustainable urban activities;
- To form a proper network of this area with Intra Urban and other radial roads;
- To promote the utilization of Tanjung Priok Port and the industrial area located in a suburb without passing through the city center;
- To support improved land use in the JABOTABEK metropolitan area.

3. Business Entity's Opportunity

Business Entity shall be responsible to perform the toll road project, including the operation and maintenance during the concession period. The private will gain revenue from government.

4. Project Technical Specification

The technical specifications for Tanjung Priok Access Road (Main Line) are as follows:

Design Speed	80 km/hour
Cross fall	2%
Max super-elevation	6 (10) %
Min stopping slight distance	75 m
Road Width	26.5 m
Outer Shoulder	1.75 m
Inner Shoulder	0.50 m
Median	2.00 m

5. Environmental Impact Assessment (AMDAL) Findings

The Environmental Impact Assessment is required for this project based on Government Regulation 27/2012. However, The Initial Environmental Examination founds major impacts of the project, which are:

- Ambient air quality decrease
- Noise level increase
- Social impact due to land acquisition

6. Project Structure

Total Length	22.8 km
Estimated Project Cost	USD 281.00 million
Estimated annual operation and maintenance cost	USD 322,000.00/km

7. Government Support and Government Guarantee

Detail assessment of the required government support for the project is needed. The necessity and applicability of the government support and guarantee will be identified and specified in the subsequent studies.

8. Project Implementation Schedule

9. Contact Information

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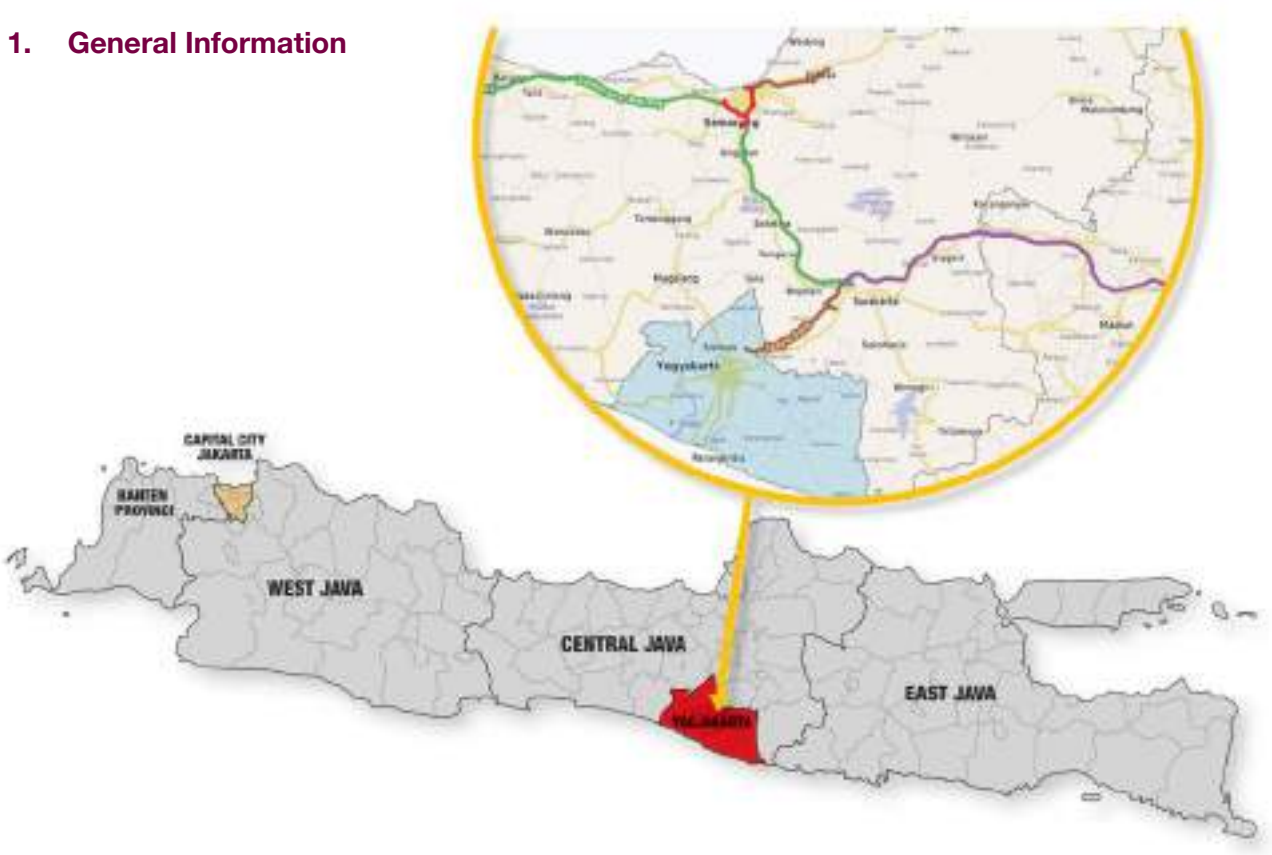
YOGYAKARTA - SOLO TOLL ROAD

1. General Information



Government Contracting Agency	:	Indonesia Toll Road Authority (BPJT)
Implementing Unit	:	Indonesia Toll Road Authority (BPJT)
Preparation Agency	:	Indonesia Toll Road Authority (BPJT)
Estimated Project Cost	:	USD 113.00 million
Estimated Concession Period	:	36 years
Location	:	D.I. Yogyakarta to Central Java

2. The Opportunity

2.1. Project Background

Yogyakarta (Jogja) and Solo have their own attraction for the locals and tourists. The two cities are rich in local culture because they have Javanese palaces as well as there are numerous statues spread around this area. This makes Yogyakarta and Solo have become an important tourist destination in Indonesia. During holiday season such as Christmas & New Year Holiday and Idul Fitri Holiday, a massive congestion happened along this area. As a result, a new development of toll road which connecting Jogja – Solo will overcome congestion problem and finally, it will accelerate the mobilization of people from Jogja to Solo.

2.2. Project Description

Jogja – Solo Toll Road will cross Sleman District in Yogyakarta and 3 districts in East Java; Surakarta District, Sukoharjo District and Klaten District. Sleman is well-developed district especially in trading. The other three districts have their own potential resources which will attract economic growth around East Java. This toll road is approximately 45 km in length.

2.3 Project Objectives

This purpose of the development of this project is to accommodate enhancement of traffic volume around Jogja and Solo.

3. Business Entity's Opportunity

Private partner shall be responsible to perform the toll road project, including financing, engineering design, construction, operation and maintenance of the toll road during concession period

4. Project Technical Specification

The technical specifications for Jogja – Solo Toll Road are as follows:

Length	45 km
Total lanes	4 lanes 2 ways (4/2D)

5. Environmental Impact Assessment (AMDAL) Findings

The Environmental Impact Assessment is required for this project based on Government Regulation 27/2012. However, major impacts of the toll road project are:

- Noise level increase
- Traffic around location
- Decreasing air quality, underground water quality, river quality
- Disruption on vegetation and fauna habitat
- Social perception and conflict
- Disruption on land structure

6. Land Acquisition and Resettlement Action Plan**

Land acquisition and resettlement action plan is being finalized.

7. Project Structure

Estimated project cost	USD 113.00 million
Indicative debt to equity	
- Debt level	70%
- Equity level	30%

8. Government Support and Government Guarantee

Detail assessment of the required government support and guarantee for the project is needed. It will be identified and specified in the subsequent studies.

9. Project Implementation Schedule

10. Contact Information

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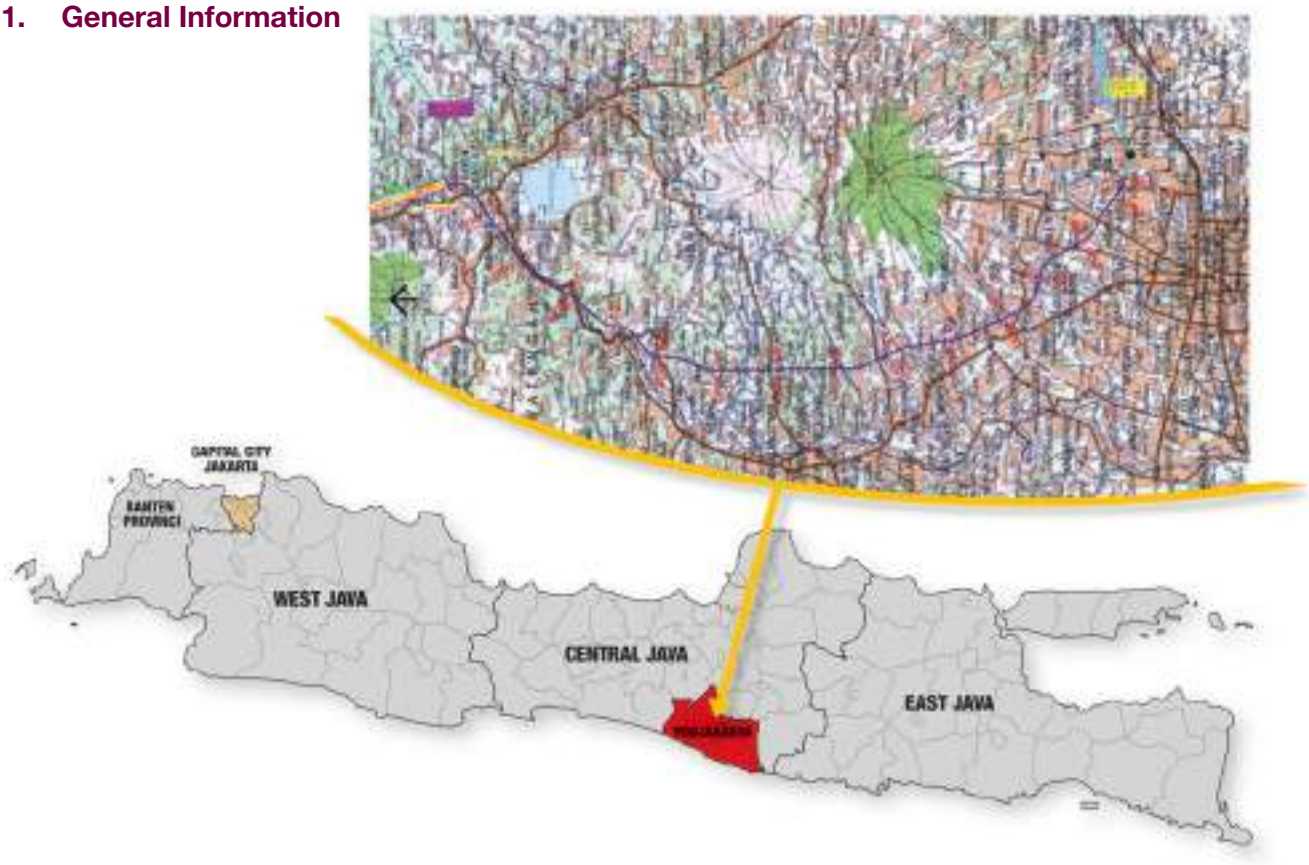
YOGYAKARTA - BAWEN TOLL ROAD

1. General Information



Government Contracting Agency	:	Indonesia Toll Road Authority (BPJT)
Implementing Unit	:	Indonesia Toll Road Authority (BPJT)
Preparation Agency	:	Indonesia Toll Road Authority (BPJT)
Estimated Project Cost	:	USD 270.00 million
Estimated Concession Period	:	30 years
Location	:	D.I. Yogyakarta to Central Java

2. The Opportunity

2.1. Project Background

Semarang and Yogyakarta are well-developed city among other city and district which are passed by Yogyakarta and Bawen Toll Road. It will give impact on city development because it will also increase partnership among other district and city based on inward and outward looking. Moreover, across this way, there are numerous beautiful sceneries which become tourist attraction. The development of this toll road is important to cover the mobility of people who cross this city.

2.2. Project Description

This toll road will be divided into three section:

1. Section 1, Bawen to Secang (STA 0+000 to STA 22+200) including Bawen Junction and Secang Junction;
2. Section 2, Secang to Borobudur (STA 22+200 to STA 53+500) without junction;
3. Section 3, Yogyakarta to Borobudur (STA 53+500 to STA 71+393.852) including Borobudur Junction.

2.3. Project Objectives

The purpose of this project are as follows:

1. To increase partnership between district and city around Yogyakarta – Bawen toll road;
2. To develop tourism activity around Yogyakarta – Bawen toll road;
3. To accommodate traffic activity which are occurred by people's mobility around Yogyakarta and Bawen area.

3. Business Entity's Opportunity

Private partner shall be responsible to perform the toll road project, including financing, engineering design, construction, operation and maintenance of the toll road during concession period.

No.	Parameter	Value
1.	IRR	18.35%
2.	NPV	USD 0.3 billion

4. Project Technical Specification

The technical specifications for Yogyakarta - Bawen Toll Road are as follows:

Length	**71.561 km**
Design Speed	80 – 120 km/hour
Total ways and lanes	
- Initial Phase	2 @ 2 X 3.6 M
- Final Phase	2 @ 2 X 3.6 M
Road Side	
- Initial Phase	3.00
- Initial Phase	1.50 m
Median (inc. inner roadside	5.5 m

5. Environmental Impact Assessment (AMDAL) Findings

The Environmental Impact Assessment is required for this project based on Government Regulation 27/2012. However, major impacts of the toll road project are:

- Noise level increase
- Traffic around location
- Decreasing air quality, underground water quality, river quality
- Disruption on vegetation and fauna habitat
- Social perception and conflict
- Disruption on land structure

6. Land Acquisition and Resettlement Action Plan

It is estimated that the land acquisition will requir of 6.7 million m^2.

7. Project Structure

Estimated project cost	USD 270.00 million
Indicative debt to equity	
- Debt level	70%
- Equity level	30%

8. Government Support and Government Guarantee

Detail assessment of the required government support and guarantee, in terms of form and scale, for the project is needed. It will be identified and specified in the subsequent studies.

9. Project Implementation Schedule

10. Contact Information

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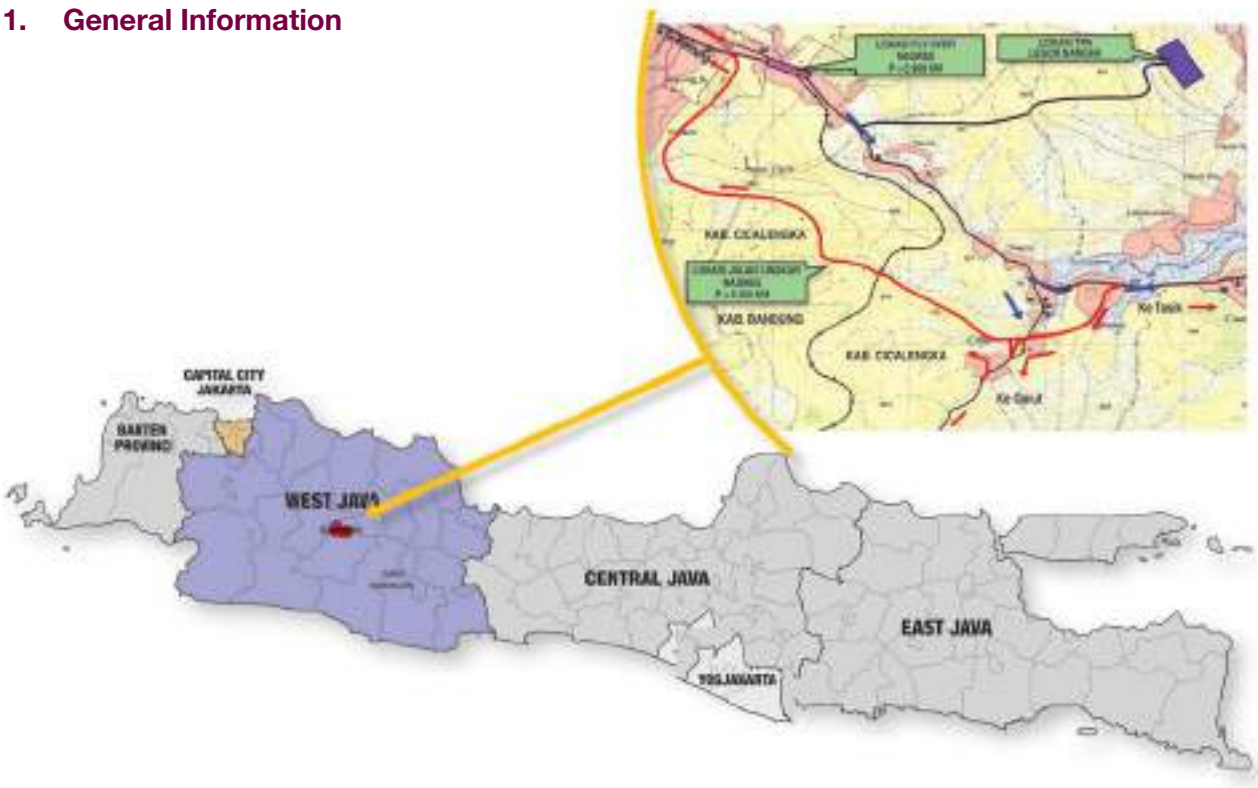
FINAL WASTE DISPOSAL SITE (TPPAS) LEGOK NANGKA, WEST JAVA

1. General Information



Government Contracting Agency	:	Government of West Province
Implementing Unit	:	Departmen of Housing and Settlement, West Java Province
Preparation Agency	:	Departmen of Housing and Settlement, West Java Province
Estimated Project Cost	:	USD 43.73 million
Estimated Concession Period	:	20 years
Location	:	West Java

2. The Opportunity

2.1. Project Background

Solid Waste management is one of the main problems in many cities in Indonesia. Poor handling would lead to soil and air pollution, health issues and city livability. West Java province attempts to improve the use of sanitary landfill by developing Final Waste Disposal Site (TPPAS) in Legok Nangka. The location will replace existing TPPAS Sarimukti in which the operational expired in 2016. TPPAS Legok Nangka aims to provide processing and treatment of solid waste that covers the City of Bandung, Regency of West Bandung, Regency of Bandung, Regency of Sumedang, City of Cimahi and Regency of Garut. The TPPAS is located in Legoknangka, Ciherang, and Nagreg villages, Regency of Bandung with total area about ±74.6 Ha.

2.2. Project Description

Based on the pre – feasibility study, the project will use full gasification for its technology. It will produce electricity and will be sold to PLN for gaining additional revenue.

Minimum service for the project is 920 tons per day from five regencies and city around the project during the operational phase. The result of the product must fulfill domestic and international standards. Processing of waste is also expected to produce minimum environmental impact related to emission, odor, noise, and disease.

2.3. Project Objectives

The project aims are as follows:

- Improve solid waste processing
- Reduce total waste in West Java area
- Propose new environmentally friendly technology

3. Business Entity's Opportunity

The project investment will be supported by Provincial Government of West Java, Central Government, and Private Investor through Built – Operate – Transit (BOT) scheme. While operation and maintenance will be conducted by the business entity, the investors are also expected to further communicate to other parties related to the sales of electricity which produced by the TPPAS.

4. Project Technical Specification

The technical specifications for TPPAS Legok Nangka are as follows:

- TPPAS facilities include waste processing and sanitary landfill
- Waste plan maximum input : 2,180 ton/day
- Output :
  - Electricity production : 342,000 kWh per day
  - Compost : 90 ton per day

5. Environmental Impact Assessment (AMDAL) Findings

Head of Investment and Licensing Board of Bandung Regency has issued environmental permit No 667/001/BPMP, 2013 related to the TPPAS development in Legok Nangka. The scope of this permit consists of pre – construction phase, construction phase, operational phase and post – operation.

6. Land Acquisition and Resettlement Action Plan

Pre – feasibility study indicates that some of the land owned by the local people and therefore requires land acquisition.

7. Project Structure

The investment cost for TPPAS Legok Nangka is about USD 43.73 million while the operation and maintenance cost is estimated for about USD 4.97 million or equal to USD 9.1 /ton. Financing composition will be divided into 9.43% from APBD, 26.10% from APBN and 64.47% from private investment.

8. Government Support and Government Guarantee

The government support and guarantee for this project may be required. More detail about this matter will be provided in subsequent studies.

9. Project Implementation Schedule

10. Contact Information

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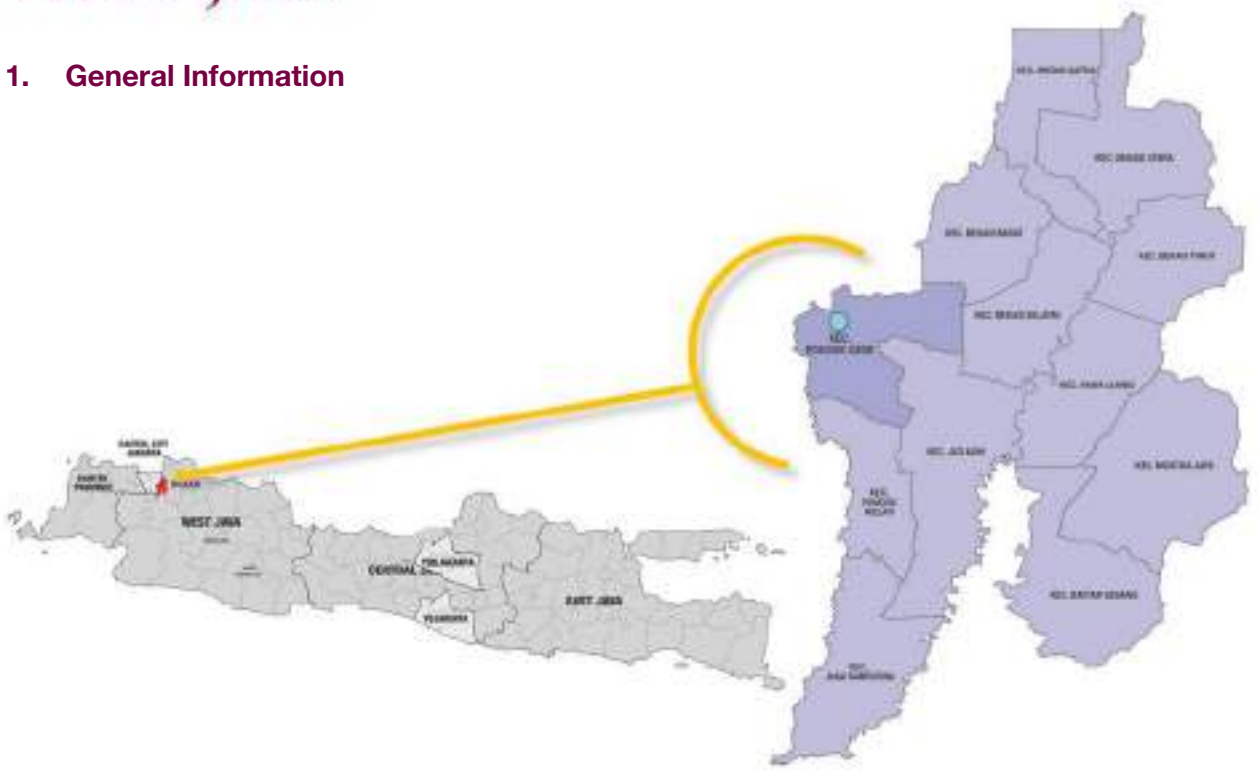
PONDOK GEDE WATER SUPPLY, BEKASI WEST JAVA

1. General Information



Government Contracting Agency	:	PDAM Tirta Patriot
Implementing Unit	:	PDAM Tirta Patriot
Preparation Agency	:	1. PDAM Tirta Patriot 1. National Public Procurement Agency (LKKP)
Estimated Project Cost	:	USD 25.00 million
Estimated Concession Period	:	25 years
Location	:	Bekasi, West Java

2. The Opportunity

2.1. Project Background

The population of Bekasi Municipal as satellite city of DKI Jakarta is growing at 3% every year and is approaching 2 million people. In contrary, the existing condition of water service coverage of PDAM Bekasi Municipal is very low, serving only approximately 25% of the total households. Furthermore, in some districts such as Pondok Gede, the service coverage of PDAM is less than 1 percent. PDAM Bekasi Municipal currently has only one water intake with a capacity of 10 lps to serve this district. Most of the households in the area use ground water to cover their daily needs. The groundwater, on the other hand, has low quality, with high concentrations of Fe and Mn.

The Government of Bekasi Municipal will expand the water supply service, due to the limitated existing water supply capacity. The Pondok Gede Water Supply Project is expected to increase the total service coverage for the Pondok Gede District and Jatiasih District. The realization of this project will make a substantial contribution to the city process toward achieving the Millenium Development Goals's (MDG's) target of 68.9% of the population with sustainable access to safe drinking water.

2.2. Project Description

The purpose of developing the water supply scheme in Bekasi Municipal is to meet the growing demand in activities of education, local economy, government and other activities. For this project, PDAM Bekasi Municipal plans to take raw water source from West Tarum Canal that runs across the city. Data from Perum Jasa Tirta II shows that the West Tarum Canal has an average width of 25 m and a length of 80 km, with a peak discharge rate of 55 m^3/sec. The Government of Bekasi Municipal is currently seeking an allocation of 300 lps of raw water from this source to be utilized by the project. The coverage target for the project is to provide service for 31,700 connections, of which 29,660 would be domestic and 2,040 non-domestic. Approximately 84% of these connections would be in the Pondok Gede District, and the remaining in the Jatiasih District.

2.3. Project Objectives

The purpose of the project is to expand the coverage of water supply services in 5 sub-districts of the Pondok Gede district, namely Jatibening, Jatibening Baru, Jatimakmur, Jatiwaringin, and Jaticempaka; and 4 sub-districts of the Jatiasih District, namely Jatiasih, Jatikramat, Jatimekar and Jatirasa. The general objectives of the project are as follows:

- To expand the service coverage of the water supply system in Bekasi Municipal
- To improve the quality of service of PDAM Bekasi Municipal

3. Business Entity's Opportunity

The proposed project scheme is a full concession. Therefore the private partner shall be responsible to finance, design, construct, operate, and maintain the infrastructure assets, including intake, water treatment plan, water transmission mains, district reservoirs, distribution network and service connections. The private partner will also be responsible for billing and payment collection from customers

4. Project Technical Specification

The technical specifications for Pondok Gede Water Supply are as follows:

- Water intake
- Water transmission
- Water treatment plant with capacity of 300 lps
- Two service reservoirs with capacities of 4,000 m^3 and 1,000 m^3
- Distribution pipelines approximately 98 km (including tertiary network)
- Connections for 31,700 customers

5. Environmental Impact Assessment (AMDAL) Findings

The project is classified to require an Environmental Impact Assessment (AMDAL), Environmental Management Plan and Public Consultation. Initial environmental examinations have indicated that the project should not face any significant problems from an environmental point of view. Until March 2016, AMDAL and Environmental License are being under process.

6. Land Acquisition and Resettlement Action Plan

For the development of water intake, treatment plant and service reservoir, the Government of Bekasi Municipal estimates the project requires approximately 8,000 m^2 of land. The transmission mains are expected be laid on public land.

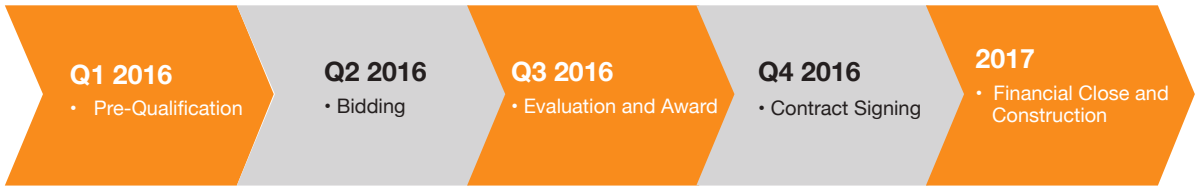
7. Project Structure

Estimated project cost	USD 25.00 million
Indicative debt to equity ratio	
- Debt level	70%
- Equity level	30%

8. Government Support and Government Guarantee**

The Government of Bekasi Municipal will support the project in form of land acquisition and UKL/UPL preparation. To mitigate the project's risks from changes in demand risk and shifts in political scenario, government guarantee may be required. In this regard, the level of risk perceived from investors will be determined at market sounding.

9. Project Implementation Schedule*



10. Contact Information

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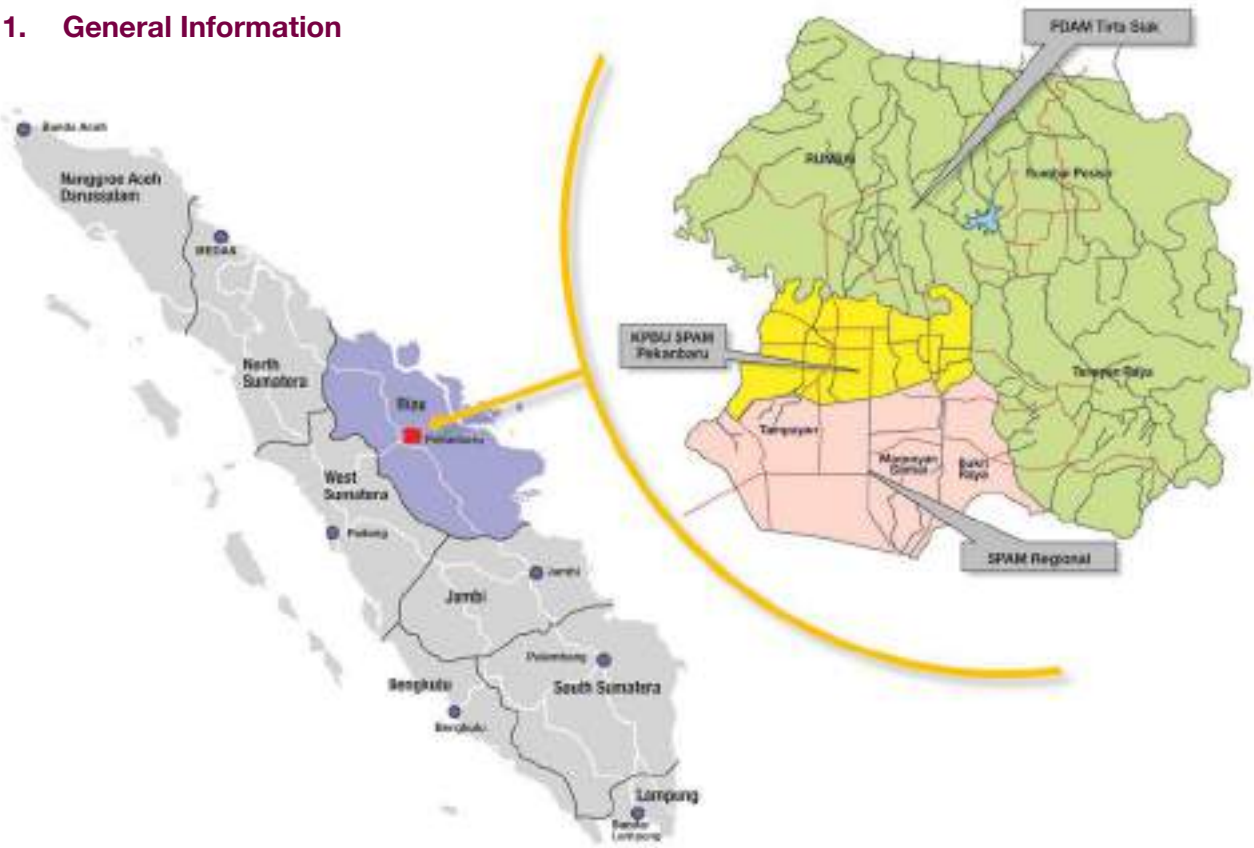
PEKANBARU WATER SUPPLY, RIAU

1. General Information



Government Contracting Agency	:	PDAM Kota Pekanbaru
Implementing Unit	:	PDAM Kota Pekanbaru
Preparation Agency	:	1. PDAM Kota Pekanbaru 2. Ministry of National Development Planning
Estimated Project Cost	:	USD 35.50 million
Estimated Concession Period	:	25 years (BOT+ including investment distribution piping)
Location	:	Pekanbaru, Riau

2. The Opportunity

2.1. Project Background

Pekanbaru city as the capital of Riau province actively conducts physical development, which has implications on land use and population density. These conditions give impact to the declining quality of groundwater, caused by contaminated resulting from community activities.

Based RPJMN 2015-2019, coverage of drinking water services throughout Indonesia in 2019 must have reached 100%. While the coverage of drinking water services in the city of Pekanbaru in 2014, especially through the pipeline only reached 8%. These services are served by PDAM Tirta Siak, where most people rely on groundwater for drinking water.

2.2. Project Description

Pekanbaru Water Supply project was developed to assist local governments to improve water service to the community of Pekanbaru. Most of the households in the area use ground water to cover their daily needs. The groundwater, on the other hand, has low quality, with high concentrations of Fe and Mn.

With this project, the management of drinking water in the city of Pekanbaru will be conducted by PDAM, UPTD SPAM Regional and PPP Unit. The level of service from 8% in 2014 will increase to 27% in 2019 with the sustainable access to safe drinking water. The Capacity of the system of 500 l / sec will serve 40,000 household connections.

The service areas are six (6) sub-districts: Pekanbaru Kota, Lima Puluh, Sukajadi, Sail, Senapelan, dan Payung Sekaki.

The water from Water Treatment Plant (WTP) reservoir in Tampan will pump into the ground reservoir and then pumped back into the 4 (four) areas of distribution in Lima Puluh, Sukajadi, Sail and Payung Sekaki. Total capacity of ground reservoir is 8,500 m3: 1. Lima Puluh (2,000 m3), 2. Payung Sekaki (3,000 m3), 3. Sukajadi (2.000 m3), 4. Sail (1,500 m3).

The total length of transmission pipes is 14.88 km with varying diameters 300-600 mm using a material Pipes Steel. The total length of distribution pipes is 133.61 km with varying diameters 70-250 mm with material Pipes HDPE.

2.3. Project Objectives

The general objectives of the project are as follows:

- To expand the service coverage of the water supply system in Pekanbaru
- To improve the quality of service of PDAM Pekanbaru

The purpose of the project is to provide a reliable water supply in accordance with the technical standards in order to meet people's needs and support economic activities in the city of Pekanbaru. Provision of drinking water through PPP scheme will reduce the financial burden of the municipal government in financing the water sector.

3. Business Entity's Opportunity

The proposed project scheme is a BOT Plus. Therefore the private partner shall be responsible to finance, design, construct, operate, and maintain the infrastructure assets, including intake, water treatment plan, water transmission mains, district reservoirs, and distribution network (only finance).

4. Project Technical Specification

The technical specifications for Pekanbaru Water Supply are as follows:

- Water intake (550 lps)
- Water transmission
- Water treatment plant with capacity of 500 lps
- Transmission pipe 14.4 km
- Four (4) service reservoirs with capacities of 8,500 m3

Distribution pipelines is approximately 133.61 km (including tertiary network)

5. Environmental Impact Assessment (AMDAL) Findings

The project is classified to require an Environmental Impact Assessment (AMDAL), Environmental Management Plan and Public Consultation. Initial environmental examinations have indicated that the project should not face any significant problems from an environmental point of view. Until August 2016, AMDAL and Environmental License are being under process.

6. Land Acquisition and Resettlement Action Plan

No Land Acquisition in this project. Intake, WTP and 2 location of reservoirs will take in PDAM's property and 2 others location of reservoirs will rent from the City of Pekanbaru.

7. Project Structure

Estimated project cost	USD 35.50 million
Indicative debt to equity ratio	
- Debt level	70%
- Equity level	30%
FIRR	16.00%

8. Government Support and Government Guarantee

The Government of Pekanbaru Municipal will support the project in form of land acquisition. To mitigate the project's risks from changes in demand risk and shifts in political scenario, government guarantee may be required. In this regard, the level of risk perceived from investors will be determined at market sounding.

9. Project Implementation Schedule

10 Contact Information

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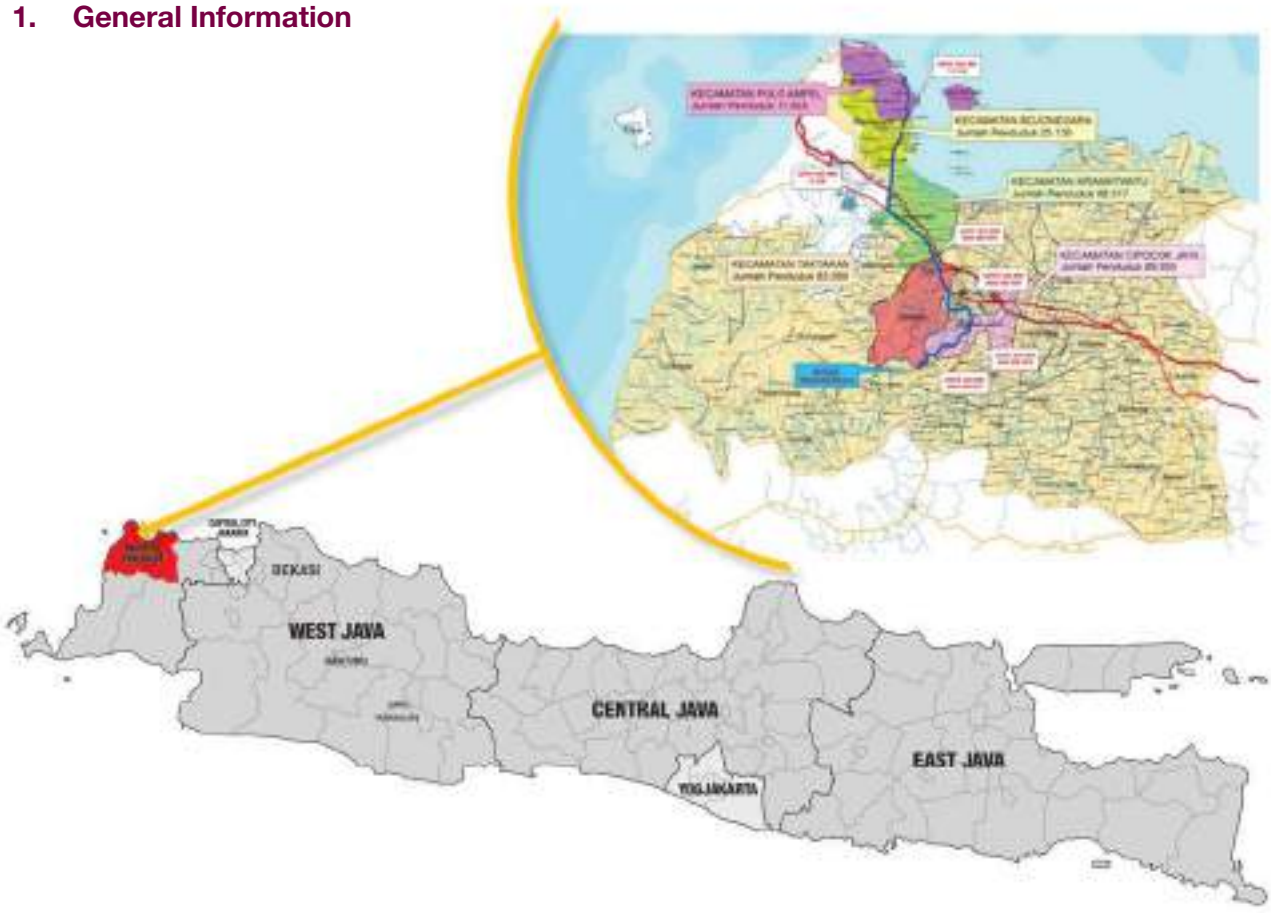
SINDANG HEULA WATER TREATMENT PLANT, BANTEN

1. General Information



Government Contracting Agency	:	Governor of Banten
Implementing Unit	:	Water Resources and Settlement Agency, Banten Province
Preparation Agency	:	Water Resources and Settlement Agency, Banten Province
Estimated Project Cost	:	USD 17.00 million
Estimated Concession Period	:	15 – 20 years
Location	:	Sindang Heula, Banten

2. The Opportunity

2.1. Project Background

Lack of proper drinking water is one of a crucial issue in urban development around Banten Province. Moreover, there is a huge gap between the existence of drinking water facilities in a suburb and city center. This condition is compounded by lacking of money to cover the operation and maintenance cost. Population in Banten have grown significant during this decade as well as the need of for clean and drinkable water.

Therefore, the government of Banten has a strong commitment to carry out a new water treatment plan in order to achieve 58,08 liter/second in 2020 at in Serang. A new development of Sindang Heula is being prepared by related stakeholders.

2.2. Project Description

Sindang Heula Water Treatment Plant is located on Sindang Heula Village, Serang District, Banten Province, coordinates east 106°6'52" and south 6°10'52,4". The development of this water treatment will be divided into three major areas; production unit, distribution unit, and services unit. Production unit will be 500 meters from intake Sindang Heula Dam. There will be Cipocok Raya, Taktakan, Kramatwatu, Bojonegara and Pelabuhan Bojonegara are distribution units. From this distribution units, the water will be flowed to Cipocok Raya, Taktakan, Kramatwatu, Bojonegara and Pulo Ampel District.

2.3. Project Objectives

The purpose of the project is to expand the coverage of water supply services in 5 sub- districts of the Serang district and Serang City, namely Cipocok Raya, Taktakan, Kramatwatu, Bojonegara and Pulo Ampel. The general objectives of the project are as follows:

- To expand the service coverage of the water supply system in Banten province
- To improve the quality of service of drinking water in Banten Province.

3. Business Entity's Opportunity

Private partner shall be responsible to finance, design, construct, operate, and maintain the infrastructure assets, including intake and water treatment plan. The private partner will also be responsible for billing and payment collection from customers

4. Project Technical Specification

The technical specifications for Sindang Heula Water Treatment Plan are as follows:

- Raw water source: ground water
- Processing system: full-equipment
- Distribution water system: piping
- Reservoir volume: 20% of daily uses
- Service area's slope: considered flat

5. Environmental Impact Assessment (AMDAL) Findings

The project is classified to require an Environmental Impact Assessment (AMDAL), Environmental Management Plan and Public Consultation.

6. Land Acquisition and Resettlement Action Plan

For the development of the water intake, water treatment plan and service reservoir, the Government of Banten estimates the project requires approximately 13,000 m^2 of land. The transmissions main are expected be laid on public land.

7. Project Structure

Estimated project cost	USD 17.00 million
Indicative debt to equity ratio	
- Debt level	70%
- Equity level	30%

8. Government Support and Government Guarantee

The Government of Banten will support the project in form of land acquisition. To mitigate the project's risks from changes in demand risk and shifts in political scenario, government guarantee may be required. In this regard, the level of risk perceived from investors will be determined at market sounding.

9. Project Implementation Schedule

10. Contact Information

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GOVERNMENT MULTI-FUNCTION SATELLITE

1. General Information

Government Contracting Agency	:	Ministry of Communication and Informatics
Implementing Unit	:	Ministry of Communication and Informatics
Preparation Agency	:	Ministry of Communication and Informatics
Estimated Project Cost	:	USD 318.00 million
Estimated Concession Period	:	15 years
Location	:	Indonesia

2. The Opportunity

2.1. Project Background

Currently, competition for satellite business in the Asia-Pacific region is increasing. Asia-Pacific region, especially Southeast Asia region, still needs satellites as telecommunications and broadcasting infrastructure (broadcasting). It caused by several factors: the high demand for services among others cellular backhaul, broadband backhaul, enterprise network, OUTV (Occasional Usage TV), military and government network, DTH television, flight communication, and recovery solution at the time of natural disasters (disaster recovery).

The usage of satellite transponder in Indonesia is growing rapidly for banking, military, and government agencies. Satellites are required for communications, data transfer, broadband internet, and video. This condition become harder as the fact Indonesia is an archipelago country that it find still challenging to reach terrestrial infrastructure network using fiber optic and microwave links.

Currently, Indonesia required 220 – 230 transponders while there are only 130 – 140 transponders which provided by local operators with USD 1 million per channel each year.

2.2. Project Description

This multifunctional satellite will cover 6 ministries and institutional in Indonesia:

- Ministry of Maritime and Fisheries Affairs requires 123 Mbps
- Ministry of Health requires 17,697 Mbps
- Ministry of Home Affairs requires 162,579 Mbps
- Ministry of Defense requires 5 transponders
- Ministry of Education requires 106,000 Mbps
- Indonesian Agency for Meteorology, Climatology, and Geophysics requires 36 Mhz

According to the requirement from those ministries and institutional, total transponders and satellite require are as follows;

Ministries/Institutional	Mbps	Ratio 1:10	Hz/Bps 0,65	Transponder
Ministry of Maritime and Fisheries Affairs	123	12.3	8	0.2
Ministry of Health	17,583	1,758.3	1,143	31.7
Ministry of Home Affairs	162,570	16,257	10,5670	293.5
Ministry of Defense				5
Ministry of Education	106,000	10,600	6,890	191.4
Indonesian Agency for Meteorology, Climatology and Geophysics			36	1
Total Transponders				**522.8**
Total Satellites				**10.4**

2.3. Project Objectives

Multifunctional satellite project is expected to provide benefits for Indonesia's services to citizens as well as education and defense development.

3. Business Entity's Opportunity

Private partner shall be responsible to finance, design, construct, operate, and maintain the infrastructure assets. The private partner will also be responsible for billing and payment collection from customers

4. Project Technical Specification

The specific technical specification for this multifunction satellite have not decided yet. There are two options, first build new satellites and rent the satellites. However, to optimize plan band. There are specification that must be concerned.

NO	DESCRIPTION	C-BAND	Ku-BAND
1	Uplink frequency band (MHz)	6725-7025	12750-13250
2	Downlink frequency band (MHz)	4500-4800	10700-10950 dan 11200-11450
3	Antenna size (m)	5.5	2.7
4	Tx antenna gain (dBi)	50.4	49.8
5	Network availability (%)	99.95	99.9
6	C/N uplink (dB)	21	21
7	C/N downlink (dB)	15	15
8	Minimum elevation angle (deg)	40	40
9	Type of modulation	Any	Any
10	Rx ES system noise temp (K)	95	125
11	ES antenna efficiency (%)	70	70
12	Rx SS system noise temp (K)	500	550
13	Min beamwidth (deg)	1.6	0.8
14	SS antenna efficiency	55	55
15	Downlink pfd limits (dB(W/(m2. MHz))	-127.5	-114
16	Uplink pfd limits (dB(W/ m2.MHz))	-140	-133
17	ES EIRP density (dBW/Hz)	1.8 (Equivalent 64.8 dBW/2 MHz)	13.7 (Equivalent 76.7 dBW/2 MHz)
18	SS EIRP density (dBW/Hz)	-38.6 (Equivalent 37 dBW/36 MHz)	-22 (Equivalent 53.2 dBW/36 MHz)

5. Environmental Impact Assessment (AMDAL) Findings

The project is not classified to have an Environmental Impact Assessment (AMDAL), Environmental Management Plan.

6. Land Acquisition and Resettlement Action Plan

For the development of the multifunction satellite, the government does not have to do land acquisition and resettlement action plan.

7. Project Structure

	Unit	Total Cost	Annual Cost
Transponder cost		USD 8,357,092	USD 557,139
Satellite Cost	38	USD 317,569,513	
Earth Station Cost		USD 19,000,00	

8. Government Support and Government Guarantee

To mitigate the project's risks from changes in demand risk and shifts in political scenario, government guarantee may be required. In this regard, the level of risk perceived from investors will be determined at market sounding.

9. Project Implementation Schedule

10. Contact Information

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NUSAKAMBANGAN CORRECTIONAL INSTITUTION

1. General Information

Government Contracting Agency	:	Ministry of Law and Human Rights
Implementing Unit	:	Directorate General of Correctional Facility
Preparation Agency	:	1. Directorate General of Correctional Facility 2. Ministry of National Development Planning
Estimated Project Cost	:	USD 51.50 million
Estimated Concession Period	:	25 years
Location	:	Nusakambangan, Cilacap, Central Java

2. The Opportunity

2.1. Project Background

Correctional facilities not only aim as a prison but also to serve and accommodate inmates prior to their release and socialize to the people afterward. Nusakambangan correctional facility located in Tambakreja Village, Regency of Cilacap in Central Java Province with the area for about 216 km^2. Indonesia government initiates a partnership of this facility by optimizing correctional institution assets through open prison concept. It is a minimum security prison where inmates get training and skills of farming and/or breeding livestock.

2.2. Project Description

The project will combine correctional facility with productive activities such as livestock breeding. The geographic potential of Nusakambangan support this project as 210,000 Ha of the island will be used for this project. Moreover, Regency of Cilacap as the related area from Nusakambangan is still facing a deficit of livestock such as cattle. Thus, the project aims to increase the value of prison by adding economic production which is expected to promote regional economic growth.

2.3. Project Objectives

The project aims are as follows:

- Create an alternative concept of correctional facility
- Increase regional economy related to agriculture and farming
- Improve skills of inmates prior their release

3. Business Entity's Opportunity

The project will use Built Operate Transfer (BOT) scheme. The business entity will build the project from construction to the operation.

Revenue generated from the warden, Management Office, training, livestock and farming sales as well as other potential activity such as biogas.

4. Project Technical Specification

The technical specifications for the project as follows:

- Correctional facility
  - Building : 12,615 m^2
  - Others : 5,955 m^2
- livestock
  - Building : 47,107 m^2
  - Cattle yard : 3,000 m^2
  - Paddock : 12,075,000 m^2
- Cattle cycle per year : 21,000 of cattle

5. Environmental Impact Assessment (AMDAL) Findings

Currently, the project is in progress for pre – feasibility study. AMDAL activity will be decided afterward and provided in subsequent studies.

6. Land Acquisition and Resettlement Action Plan

More detailed about this matter will be provided in subsequent studies.

7. Project Structure

Estimated project cost	USD 51.50 million
Indicative debt to equity ratio	
- Debt level	70%
- Equity level	30%
FIRR	13.31%

8. Government Support and Government Guarantee

Based on the study, indicated that there is no need for Government financial support.

9. Project Implementation Schedule

10. Contact Information

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SPORT FACILITY PAPUA

1. General Information

Government Contracting Agency	: Governor of Papua Province
Implementing Unit	: Agency of Youth and Sport Papua Province
Preparation Agency	: 1. Agency of Youth and Sport Papua Province 2. Ministry of National Development Planning
Estimated Project Cost	: USD 38.90 million
Estimated Concession Period	: 25 years
Location	: Jayapura, Papua

2. The Opportunity

2.1. Project Background

According to Decision of Minister Youth and Sports Number 0110 in 2014, Papua is the chosen province to organize Pekan Olahraga Nasional (PON) XX in 2020. As a result, Government of Papua must prepare the construction of sport facilities and supporting infrastructure in order to succeed PON XX within three years (2016-2019). This momentum will be the initial point to organize sport event in Papua Province professionally.

Based on the existing infrastructure, most of sport facilities require repairment. In addition, those facilities should meet national standards and also international standard.

2.2. Project Description

Sport Facilities Papua, will be built near existing Mandala Stadium in Jayapura, which is designed to held tennis, basket, badminton and volley ball match. A luxury hotel, culinary area with sea sceneries and commercial area are combined together along with the development of sport facilities to carry out the concept of one-integrated area. All athletes, supporters and committee are expected to use those all facilities during an event.

2.3. Project Objectives

The project is expected to promote the development of sport infrastructure in Papua Province. Furthermore, the existence of hotel and facilities especially commercial area as well as culinary area could be brought up as stimulator of economic growth in Papua Province.

3. Business Entity's Opportunity

As prime opportunity, private shall be partnered with government to join the Build – Operate – Transfer (BOT) scheme for Sport Facilities including hotel, culinary area and commercial area.

4. Project Technical Specification

The technical specifications for Sport Facilities are as follows:

- It is expected to have four main zones: Public Zone, Private Zone, Service Zone, Supporting Zone
- There will be one scenario: Sport Facilities with four stars hotel.

No	Part of Sports facilities and Hotel	Project Scope
		m2
1	Hotel construction	22.925
2	Sports facilities and construction	3.945
3	Floating restaurant and construction	600
4	Jogging and supporting facilities	322
5	Supporting of outside building	7.299

5. Environmental Impact Assessment (AMDAL) Findings

The process of environmental impact assessment is being finalized.

6. Land Acquisition and Resettlement Action Plan

The land for the construction of this project is owned by Government of Papua Municipal. However, government should consider the houses of fishermen around this area. These settlements grew by itself outside of urban planning. Therefore, government is suggested to assess LARAP.

7. Project Structure

	Four stars hotel
Estimated project cost	USD 38.90 million
Indicative debt to equity	
- Debt level	70%
- Equity level	30%
- FIRR	11.70%

8. Government Support and Government Guarantee

The project might require government guarantee in term of risk mitigation for payment risk and political risk since it is planned to have bank's loan. However, the necessity and applicability of the government support and guarantee will be identified and specified in the subsequent studies.

9. Project Implementation Schedule

10. Contact Information

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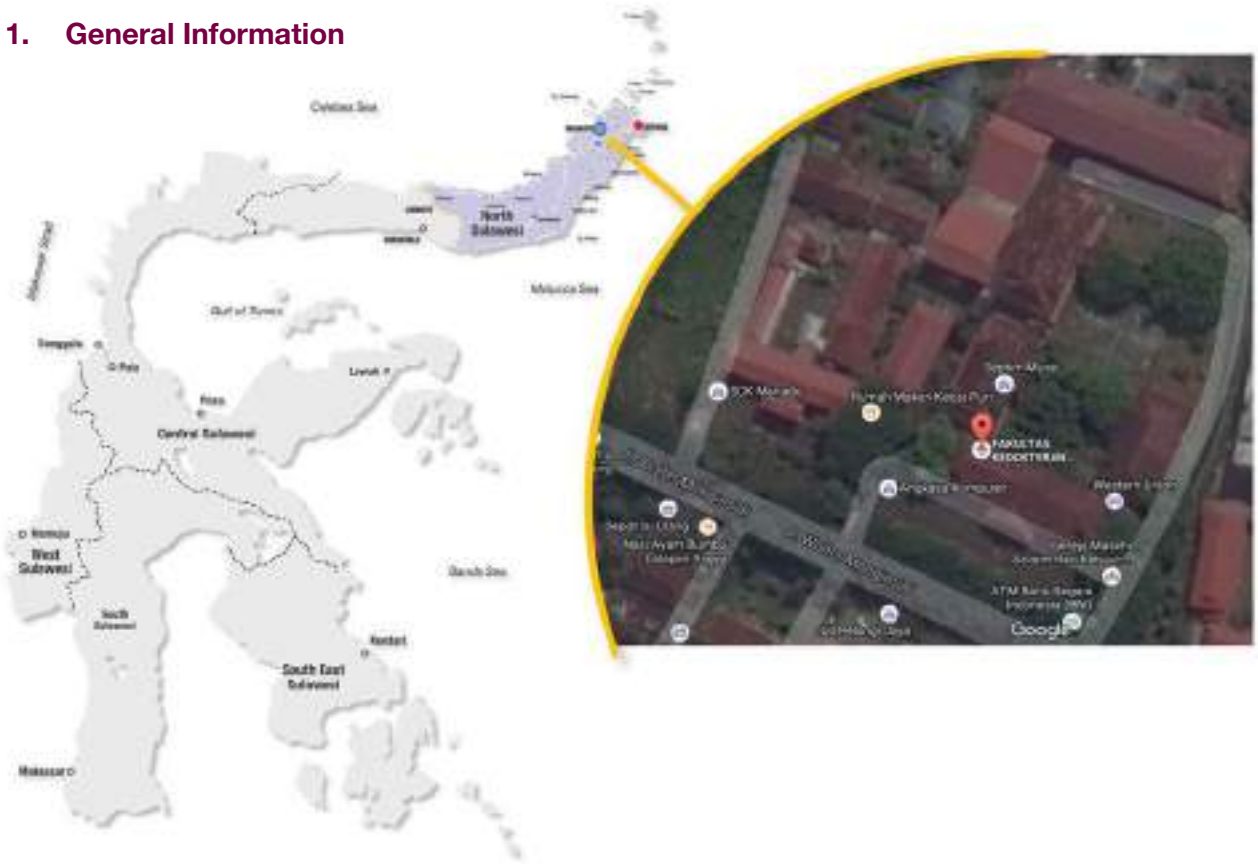
SAM RATULANGI TEACHING HOSPITAL, NORTH SULAWESI

1. General Information



Government Contracting Agency	:	Ministry of Research, Technology and Higher Education
Implementing Unit	:	University of Sam Ratulangi
Preparation Agency	:	1. University of Sam Ratulangi 2. Ministry of National Development Planning
Estimated Project Cost	:	USD 28.70 million
Estimated Concession Period	:	20 years
Location	:	Manado, North Sulawesi

2. The Opportunity

2.1. Project Background

Sam Ratulangi Teaching Hospital is planned to support medical student in education and medical research matters in University of Sam Ratulangi. Furthermore, for locals, the hospital could be one of their options in health services. Given the fact that patients have outnumbered the existing hospitals in North Sulawesi such as Kandou Hospital, Siloam Hospital, Pancaran Kasih Hospital, Advent Hospital, the development of this hospital could

be a complement in providing health services. Accordingly, based on economic and financial criteria, this hospital will provide benefits for locals for improvement of public health services.

2.2. Project Description

Government Regulation No. 93/2015 stated, that teaching hospital has four functions: health service, education, medical research, and dentistry. Moreover, hospital will provide doctor who is required in the learning process because they can acknowledge students, give sustainable exercises or even tutor them privately in order to be a decent doctor, dentist and other health examiners. Therefore, Sam Ratulangi Teaching Hospital would be determined as one of the Teaching Hospital in Indonesia that is initiated by Ministry of Research, Technology and Higher Education and the private consortium.

The hospital has seven levels building and laid on local government land. It will be occupied by up to 341 outpatients each day and around 4 inpatients every single day. In this case, the hospital approximally will have the hospital has 100 beds in the first year and will be added to 243 beds in the seven years.

2.3. Project Objectives

The purposes of the project are to be an excellent hospital which arrange complex education and research in term of Professional Study Program, Clinical Practice, and other support medical treatment such as rehabilitation.

The government also plans to endorse Sam Ratulangi Teaching Hospital as one of the best hospital in town. By doing so, local people will gain high quality health service. Moreover, it will boost up economic empowerment in North Sulawesi through the medical world.

3. Business Entity's Opportunity

University of Sam Ratulangi will delegate their human resources to manage the hospital including the doctors. Meanwhile, private partner shall be responsible to finance for repairment of the existing building, construct the other building, supply the equipment of the hospital and maintain the hospital building and also the hospital equipment. The revenue of this project is gaining from inpatient and outpatient tariff, laboratory, pharmacy, radiology, physiotherapy. Moreover, there is a potential of non-operating revenue such as parking lot retribution, ATM spot, and cafetaria.

4. Project Technical Specification

The technical specifications for Sam Ratulangi Teaching Hospital are as follows:

- Sam Ratulangi Teaching Hospital is expected to have at least 13 areas of specialties
- Classification Class B Hospital

- Number of outpatient at Sam Ratulangi Teaching Hospital a year is approximately 20% of total population in Manado.
- Number of Inpatient at Sam Ratulangi Teaching Hospital a year is approximately 20% from outpatients.
- Sam Ratulangi Teaching Hospital will be divided into three main buildings: Polyclinic Building, Emergency Department, and Inpatient Department.

5. Environmental Impact Assessment (AMDAL) Findings

This project already had an Environmental Impact Assessment (AMDAL) in 2008. However, as recommendation from Badan Lingkungan Hidup Daerah (BLHD) Manado in August 2012, it is required a new AMDAL document which is suitable with recent condition for Sam Ratulangi Teaching Hospital.

6. Land Acquisition and Resettlement Action Plan

There is no land acquisition and resettlement needed because the project is located on land owned by University of Sam Ratulangi.

7. Project Structure

Estimated project cost	USD 28.70 million
Indicative debt to equity	
- Debt level	70%
- Equity level	30%
FIRR	10.85%

8. Government Support and Government Guarantee

The project might require government guarantee in term of risk mitigation for payment risk and political risk since it is planned to have bank's loan. However, the necessity and applicability of the government support and guarantee will be identified and specified in the subsequent studies.

9. Project Implementation Schedule

10. Contact Information

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BANDUNG STREET LIGHTING, WEST JAVA

1. General Information

Government Contracting Agency	:	Mayor of Bandung
Implementing Unit	:	Regional Road Offices (Dinas Bina Marga)
Preparation Agency	:	1. Regional Road Offices (Dinas Bina Marga) 2. LAPI ITB
Estimated Project Cost	:	USD 157.00 (Scenario-1) USD 48.50 (Scenario-2) USD 30.00 (Scenario-3)
Estimated Concession Period	:	25 years
Location	:	Bandung, West Java

2. The Opportunity

2.1. Project Background

Until 2015, at least there are 32.000 street lights across main streets in Bandung. As a result, it allocates numerous resources and high cost which covered by Local Government of Bandung. The Mayor of Bandung has programmed an efficient and effective street lighting system called Bandung Caana. It will reduce significant cost of operation and maintenance because of replacement from conventional lamps to LED.

2.2. Project Description

This project is planned to build at least 9600 new street lightings, new pillars and installation new cables. The new street lightings are categorized for 125 Watt, 90 Watt, 70 Watt, 50 Watt and 10 Watt.

It is planned to have three scenarios of this projects

1. Scenarios 1: Substitute old street light lamps and build new street light lamps (including pillars, LED lamps installation of new cables)
2. Scenarios 2: Substitute old street light lamps (including pillars, LED lamps installation of new cables)
3. Scenarios 3: Substitute old street light lamps (only the LED lamps, not including pillars and new cables)

2.3. Project Objectives

The development of this projects have significant impact on reducing operational and maintenance cost, reducing cost electricity and improving human safety.

3. Business Entity's Opportunity

Private partner shall be responsible to build control monitoring system, advertising, telecommunication and broadband. Moreover, they have the opportunity in leasing the lane light pole for repeater wi-fi mesh and fiber optic for internet as well as Cable TV. Both private partner and government will join the Finance-Retrofit-Transfer-Operate-Maintain (FRTOM) scheme.

4. Project Technical Specification

Lighting Pole Height (H)	
- Standard pole	10 -15 m
Average height	13 m
- Tower	20 -50 m
Average height	30 m
Interval	
- Arteri road	3.0 -3.5 m
- Collector road	3.5 -4.0 m
- Local	5.0 -6.0 m
- Minimum interval	30 m
The distance to the edge Pavement Light Pole (s1)	Minimum 0.7 m
The distance from the edge of the pavement to the point farthest illumination (s2)	Minimum L/2
Inclination angle (I)	20 -30 m

5. Environmental Impact Assessment (AMDAL) Findings

At this stage of the Pre Feasibility Study, the things that were analyzed in the study area include:

1. Identify the potential impacts in general (direct or indirect) that may be incurred as a result of the implementation of the public street lighting (PJU) project.
2. Calculating carbon emissions reductions resulting from the substitution of PJU lamp of conventional lamp types all types of LED lights are more energy efficient.
3. The activities are expected to have an impact during the construction phase is the land clearing activities (land clearing), in preparation for the installation of poles each new PJU, excavation and embankment work for PJU pile foundation and ground wires.

6. Land Acquisition and Resettlement Action Plan

PJU Project will use lanes along the road so LARAP involves excavation work need to be considered, both for civil works and electrical will have impact in traffic services reduction due to new pole and ground wires installation in arterial road, which caused some roads occupied for the activity and operational vehicle.

7. Project Structure

Estimated project cost	USD 157.00 (Scenario-1)
	USD 48.50 (Scenario-2)
	USD 30.00 (Scenario-3)
IRR	4% (Scenario-1)
	14% (Scenario-2)
	14% (Scenario-3)

8. Government Support and Government Guarantee

The project will use an Availability Payment scheme (AP), in which the entity will be concerned about the continuity of the process of payment of the AP which has been approved in a contractual agreement period despite the change of government. Therefore, the availability of government guarantees would give confidence to the business entities to invest in PJU project in the city of Bandung.

9. Project Implementation Schedule

10. Contact Information

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7. Glossary

TERM	MEANING
AMDAL (EIA)	Analisis Mengenai Dampak Lingkungan *Environmental Impact Assessment*
AP	Pembayaran Ketersediaan Layanan *Availability Payment*
BAPPENAS	Badan Perencanaan Pembangunan Nasional *National Development Planning Agency*
BOT	Bangun —Guna —Serah *Build Operate Transfer*
BPJT	Badan Pengelola Jalan Tol *The Indonesia Toll Road Authority*
BUPI	Badan Usaha Penjaminan Infrastruktur *Infrastructure Warranty Business Entity*
FBC	Kajian Akhir Prastudi Kelayakan *Final Business Case*
FIRR	Tingkat Pengembalian Investasi Keuangan *Financial Internal Rate of Return*
GCA	Penanggung Jawab Proyek Kerjasama *Government Contracting Agency*
GoI	Pemerintah Indonesia *Government of Indonesia*
MoF	Kementerian Keuangan *Ministry of Finance*
OBC	Kajian Awal Prastudi Kelayakan *Outline Business Case*
O&M	Operasi dan Pemeliharaan *Operation & Maintenance*
PDAM	Perusahaan Daerah Air Minum *Local Government Owned Water Utilities*
PT. PLN	Perusahaan Listrik Negara *State Electricity Company*
PPP	Kerjasama Pemerintah Swasta *Public Private Partnership*
PT SMI	PT Sarana Multi Infrastruktur
PT PII	PT Penjaminan Infrastruktur Indonesia
(IIGF)	*Indonesia Infrastructure Guarantee Fund*

TERM	MEANING
RFP	Permintaan untuk Proposal *Request for Proposal*
RKL	Rencana Pengelolaan Lingkungan *Environmental Management Plan*
RPL	Rencana Pemantauan Lingkungan *Environmental Monitoring Plan*
RPJMN	Rencana Pembangunan Jangka Menengah Nasional *The National Medium Term Development Plan*
VGF	Dana Pendampingan Pemerintah *Viability Gap Funding*

The cost estimation in the PPP Book 2017 are based on information provided by the GCA, with base conversion rate at IDR 13,500 per USD 1. These cost estimates reflect the most recent information available and are subject to change.

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