



**MINISTRY OF PUBLIC WORKS AND HOUSING**

DIRECTORATE GENERAL OF PUBLIC WORKS AND HOUSING INFRASTRUCTURE FINANCING  
DIRECTORATE OF WATER RESOURCES INFRASTRUCTURE FINANCING



# Pre-Market Sounding **BODRI DAM AND MERANGIN DAM PUBLIC PRIVATE PARTNERSHIP (PPP) PROJECTS**

**Jakarta, 07<sup>th</sup> December 2023**

Presented by: Director of Water Resources Infrastructure Financing

## Water resources Infrastructure Development Target and Funding Gap

### MPWH VISIUM 2030



WATER RESOURCES

Storage Capacity  
120 m<sup>3</sup>/c/y  
Funding Needed  
IDR 1,423 T/  
USD 92.57 B

### MPWH TARGET 2024



WATER RESOURCES

Storage Capacity  
68.11 m<sup>3</sup>/c/y  
Funding Needed  
IDR 577 T/  
USD 37.30 B

**IDR 397 T/  
USD 25.6 B (69%)**

*State Budget*

**IDR 180 T/ USD  
11.6 B (31%)**

*Funding Gap*

## READY-TO-OFFER DAM PPP PROJECTS





## Bodri Dam

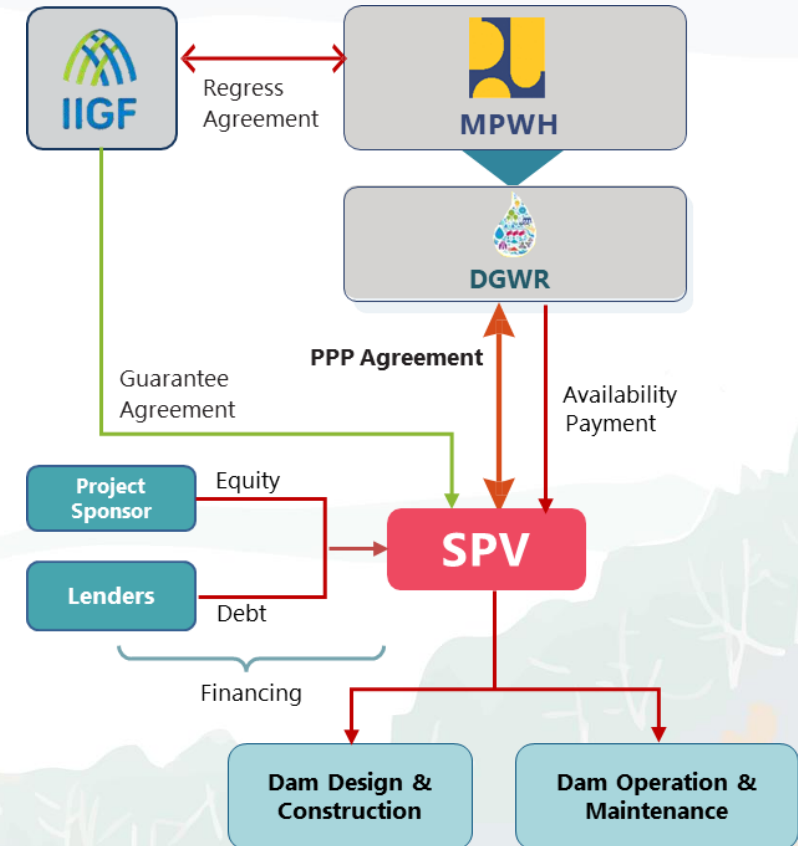
Location: Region of Kendal, Central Java Province

### PROJECT DESCRIPTION

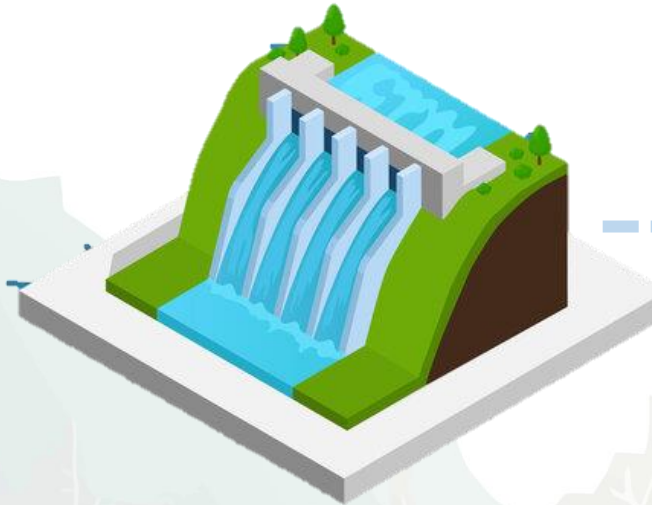
Bodri Dam Project is located in Kendal Regency, Central Java, and is connected to 12 rivers. The benefits of the dam include potential irrigation area for up to 8,861 Ha, raw water supply for Kendal Regency of up to 0.497 m<sup>3</sup>/s, increase in crop intensity from 262.35% to 300%, potential power generation of up to 3.2 MW, reduction in flooding by 10.26% (Q1000), as well as recreational and tourism opportunities.

PROJECT PROFILE	
GCA	Minister of Public Works & Housing
Partnership scheme	Design-Build-Finance-Operate-Maintenance-Transfer (DBFOMT)
Project Cost	IDR 1.74 Trillion / USD 112.28 Million
Concession Period	4 years of construction, 2 years of dam impounding, and 12 years of maintenance
Return of Investment Scheme	Availability Payment
IRR Project	10.13%

### PROJECT STRUCTURE



Bodri Dam is included as one of the National Strategic Project according to the Presidential Regulation Number 79 of 2019



## CAPEX

**IDR 1.74 T/  
USD 112.28 M**

## OPEX

**IDR 245.4 B/  
USD 15.92 M**

## Equity IRR

**13.48%**

## AP Payment\*

**IDR 392.342 B/  
USD 25.36 M per year**

## Project NPV

**IDR 507 B/  
USD 32.74 M**

## Project IRR

**10.13%**

## Payback Period

**12 years**

## Equity NPV

**IDR 45.18 B/  
USD 2.19 M**

## DSCR

**Average 1.16 x**

Desc:

\*) Already included taxes

## PROJECT SCOPE

- 1 Detail Engineering Design (DED) of the dam
- 2 Construction work of the dam and supporting facilities
- 3 Operation and maintenance of the dam

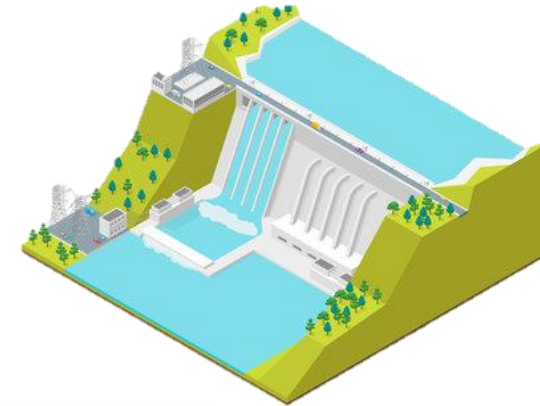
## DAM DESIGN



Dam type:  
**Zonal Embankment Dam with an upright core in the middle with 5 zonal divisions.**

Dam Height:  
**73.50 meters**

## COMPONENTS OF DAM PERFORMANCE INDICATORS



### Maintenance of the Dam Structure Services







1. Dam body
2. Intake building
3. Spillway
4. Outlet building
5. Emergency spillway structure
6. Dump hill

### Maintenance of Dam Environment & Instrumentation

1. Access road to the dam area
2. Reservation condition
3. Dam perimeter and greenbelt
4. Nearby population condition
5. Instrumentation (measuring tools)

### Dam Operation Services

1. Dam operational guidance
2. Inspection
3. Dam operational implementation
4. Dam operational facility

READINESS CRITERIA	STATUS	DESCRIPTION
<b>1</b> Preliminary Study, OBC, and FBC		Preliminary Study (2020), Outline Business Case (2020), and FBC (2021)
<b>2</b> Ministerial Decree on the Delegation as GCA		PWH Ministerial Decree Number 189/KPTS/M/2022 on the Delegation of Authority of the Minister of Public Works and Housing as the GCA of the Bodri Dam PPP Project, Central Java Province (2022)
<b>3</b> PPP Team Officiating Decree		Infrastructure Financing Director General Decree Number 21/KPTS/DP/2022 on the Formation of the Provision of Bodri Dam Infrastructure PPP Team (2022)
<b>4</b> Spatial Plan, LARAP, and EIA		<ul style="list-style-type: none"> <li>• Bodri Dam is already accommodated in the Regional Spatial Plan of the Kendal Region 2011-2031 in accordance to the Regional Regulation of Kendal Regency Number 1 of 2020;</li> <li>• LARAP Document (2020) and Environmental Impact Assessment (2022)</li> </ul>
<b>5</b> Initial AP Confirmation		Directorate General of Financing and Risk Management, Ministry of Finance Letter Number S-253/PR.6/2022 on Initial Confirmation for the Bodri Dam PPP Project (2022)
<b>6</b> Confirmation in Land Use Activities Conformity (KKPR)		The Ministry of Spatial Planning has issued KKPR Recommendation Letter Number PF.01/1302-200/IX/2023 (2023)

Desc:

Completed

On-progress

Has not  
Commenced

READINESS CRITERIA	TARGET	DESCRIPTION
<b>7</b> Screening Form	December 2023	The Directorate of Water Resources Infrastructure Financing is currently coordinating with IIGF to prepare Screening Form which will be adjusted with the data from the FBC Review Document
<b>8</b> Final AP Confirmation	December 2023	Final AP Confirmation which will include the review of the FBC, the Project Cooperation Agreement (KPU), and the Service Level Agreement (SLA) of the Bodri Dam PPP Project
<b>9</b> Land Procurement Planning Document (DPPT)	December 2023	The Land Procurement Planning Document (DPPT) is targeted to be finished by December 2023
<b>10</b> Location Determination (Penlok)	August 2024	• Location Determination (Penlok) for land in non-forest area is targeted to be finished by August 2024
	April 2025	• Location Determination (Penlok) for land in forest area is targeted to be finished by April 2025
<b>11</b> Land Acquisition	2024	The land acquisition for the Bodri Dam has been proposed for budget allocation in stages by LMAN starting from Fiscal Year in 2024, totaling IDR 609.71 billion

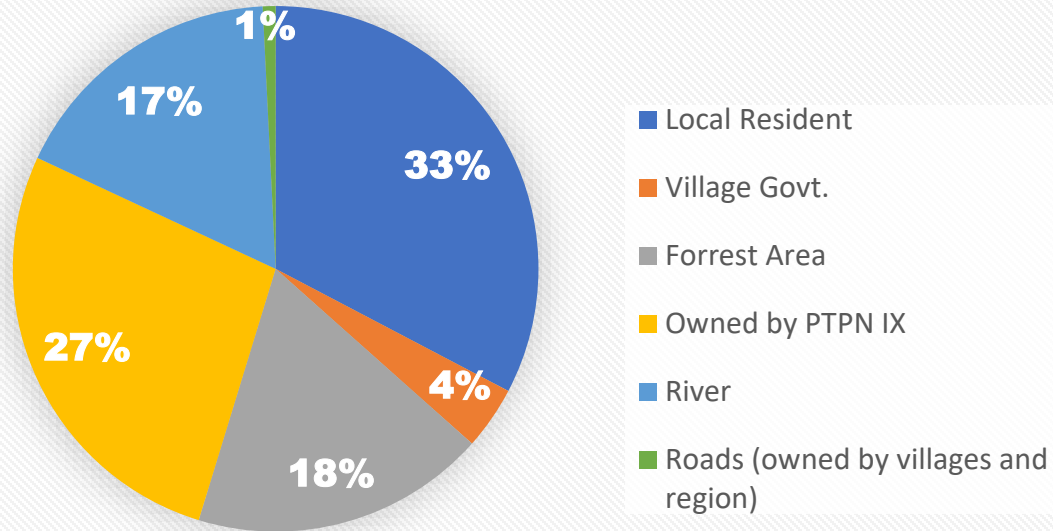
Desc:

Completed

On-progress

Has not Commenced

## Area Impacted by Bodri Dam PPP Project



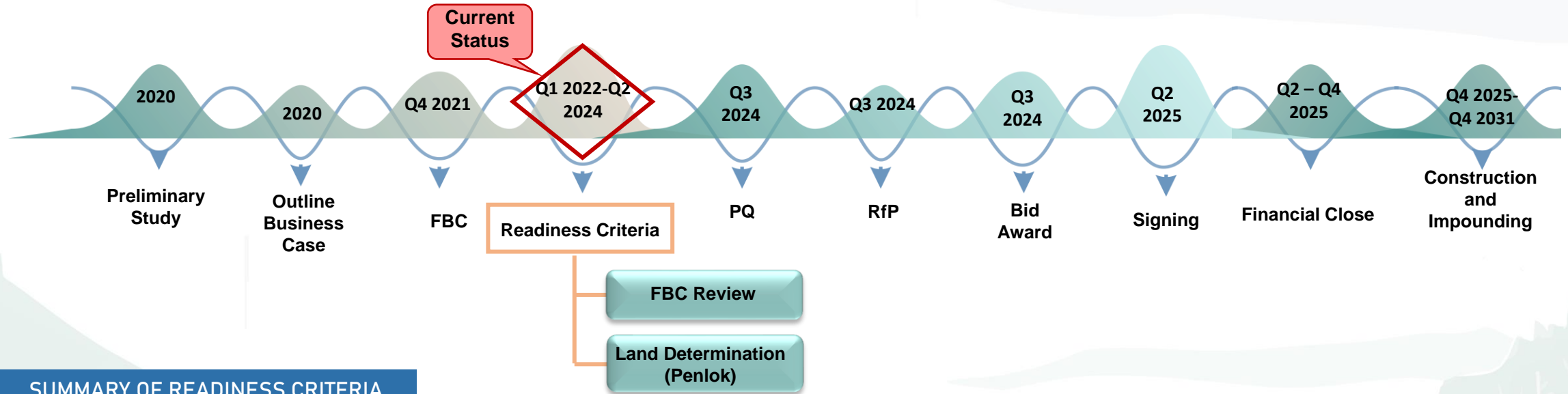
Land Owner	Area Impacted by the Development (Ha)
Local Resident	110.79
Village Government	13.16
Forest Area	61.53
Owned by PTPN IX	92.21
River	58.55
Roads (owned by villages and region)	2.66
<b>Total</b>	<b>338.9</b>

The total land area to be acquired is 338.9 Ha which covers 5 villages in Kendal and Temanggung Regencies which are: Kaliputih, Sukodadi, Banyuringin, Ngalian, and Duren

The discrepancy in the approved land area by the Ministry of Spatial Planning (277 Ha) from the total proposed area (338.93 Ha) is due to the fact that some area are forest. The forest area needs different Location Determination process with the Ministry of Environment and Forestry.



## INDICATIVE PROJECT TIMELINE



## SUMMARY OF READINESS CRITERIA

**6**

**Finished Readiness Criteria**

*Including: Preliminary Study, OBC, and FBC; Ministerial Decree of the Delegation of GCA, PPP Team Officiating Decree, Spatial Plan, LARAP, EIA, Initial AP Confirmation, KKPR*

**2**

**On-Progress Readiness Criteria**

*Including: Final AP Confirmation, Land Procurement Planning Document (DPPT, December 2023) & Location Determination (Penlok, August 2024)*



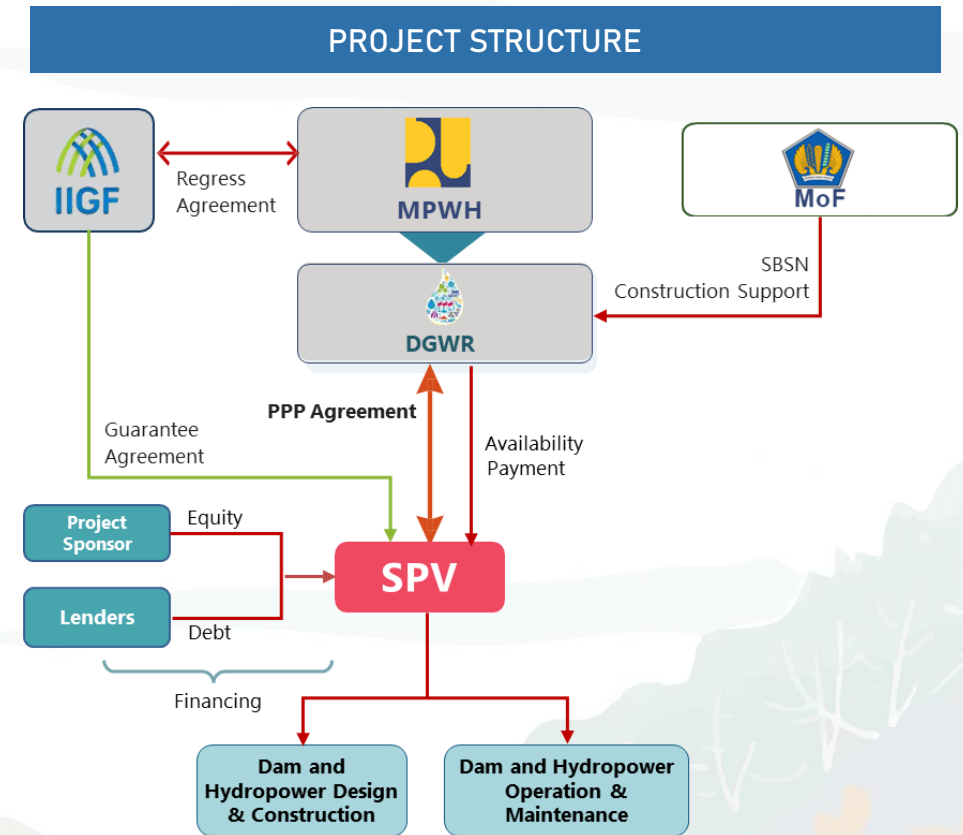
## Merangin Dam

Location: Region of Merangin, Jambi Province

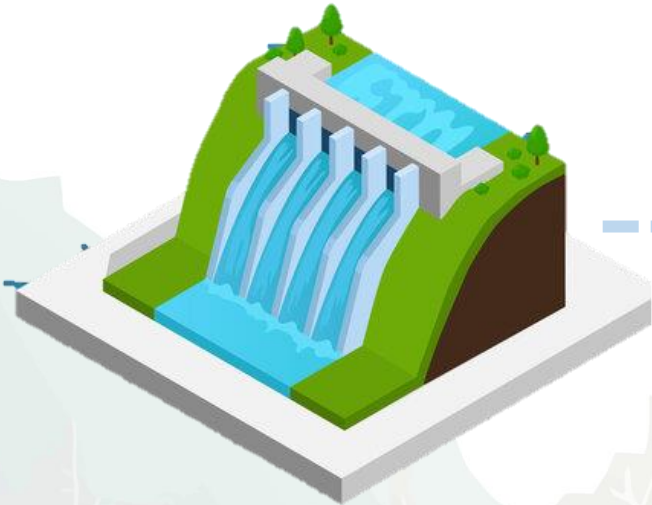
### PROJECT DESCRIPTION

Merangin Dam is located in Batanghari River Basin. The project will supply irrigation water for area of 5,224 hectares, provide drinking water with a capacity of 384 lps to serve 19 districts, flood control with a capacity of 200 m<sup>3</sup>/s, and has the potential for a 90 MW hydropower plant.

PROJECT PROFILE	
GCA	Minister of Public Works & Housing
Partnership scheme	Design-Build-Finance-Operate-Maintenance-Transfer (DBFOMT)
Project Cost	IDR 7.85 Trillion (Dam+Hydropower Plant)/ USD 509.9 Million
Concession Period	6 years of construction, 15 years of operation of Dam and 30 years of operation of Hydropower Plant
Return of Investment Scheme	Availability Payment
IRR Project	10.88%



Merangin Dam is included as one of the Major Project Major Project of 18 Multipurpose Dams according to The National Medium-Term Development Planning (RPJMN) 2020 – 2024



## CAPEX

**IDR 7.85 T/  
USD 506 M**

IDR 6.58 T / USD 425 M (DAM)      IDR 1.26 T / USD 81 M (Hydropower)

## TOTAL OPEX

**IDR 1.54 T/  
USD 99.67 M**

## Equity IRR

**14.11%**

## AP Payment\*

**IDR 1.30 T/  
USD 83.95 M per year**

*Reduction AP After SBSN  
IDR 833 B / USD 53.8 M per Year*

## Project NPV

**IDR 50.19 B/  
USD 3.24 M**

## Project IRR

**10.88%**

## Payback Period

**14.3 years**

## DSCR

**Average 1.2 x**

Desc:

\*) Already included taxes

## PROJECT SCOPE

- 1 Detail Engineering Design (DED) of the Dam and 90 MW Hydropower Plant
- 2 Construction work of the Dam and 90 MW Hydropower Plant and supporting facilities
- 3 Operation and maintenance of the Dam and 90 MW Hydropower Plant

## DAM DESIGN

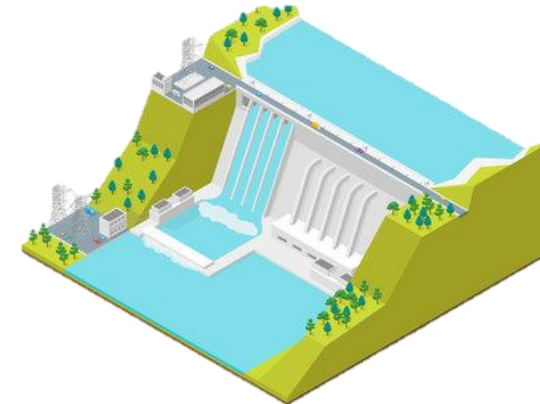


Dam type:  
**Central-Core Fill Type Dam.**

Dam Height:  
**90 meters**

Effective Storage Volume:  
**100.17 million cubic meters**

## COMPONENTS OF DAM PERFORMANCE INDICATORS



### Maintenance of the Dam Structure Services







1. Dam body
2. Intake building
3. Spillway
4. Outlet building
5. Emergency spillway structure
6. Dump hill

### Maintenance of Dam Environment & Instrumentation

1. Access road to the dam area
2. Reservation condition
3. Dam perimeter and greenbelt
4. Nearby population condition
5. Instrumentation (measuring tools)

### Dam Operation Services

1. Dam operational guidance
2. Inspection
3. Dam operational implementation
4. Dam operational facility

READINESS CRITERIA	STATUS	DESCRIPTION
<b>1</b> FS, OBC, and FBC		The Directorate General of Water Resources has completed the Technical Study (2017). The Directorate of Water Resources Infrastructure Financing has completed the Outline Business Case (2019) and currently is in preparation of Final Business Case.
<b>2</b> Detail Engineering Design (DED)		The Directorate General of Water Resources has completed the DED in 2019 and 2020.
<b>3</b> Ministerial Decree of the Delegation of GCA		PWH Ministerial Decree Number 437/KPTS/M/2021 on the Delegation of Authority of the Minister of Public Works and Housing as the GCA of the Merangin Dam PPP Project, Central Java Province in April 15, 2021.
<b>4</b> PPP Team Officiating Decree		Infrastructure Financing Director General Decree Number 28/KPTS/Dp/2021 on the Formation of the Provision of Merangin Dam Infrastructure PPP Team in April 30, 2021.
<b>5</b> Initial AP Confirmation		Director of PDPPI, Directorate General of Financing and Risk Management, Ministry of Finance has approved the request for Initial AP Confirmation through the letter Number S-163/PR.6/2021 on Initial Confirmation for the Merangin Dam PPP Project on August 13, 2021.
<b>6</b> <i>Screening Form</i>		The Directorate of Water Resources Infrastructure Financing is currently coordinating with IIGF to prepare Screening Form which will be adjusted with the data from the FBC Review Document

Desc:

Completed

On-progress

Has not Commenced

READINESS CRITERIA	TARGET	DESCRIPTION
<b>7</b> Spatial Plan, LARAP, and EIA	2024	<ul style="list-style-type: none"> <li>Merangin Dam construction plan will be included in the Regional Spatial Plan of the Merangin Region, but the Regional Spatial Plan approval process is still needed at the provincial level.</li> <li>River Basin Organization of Sumatera VI Jambi (BWSS 6) has completed the LARAP and EIA document in 2020 and currently in the process of obtaining an environmental permit.</li> </ul>
<b>8</b> Confirmation in Land Use Activities Conformity (KKPR)	2024	The Ministry of Spatial Planning issued the KKPR Recommendation Letter Number on May 3, 2023, approving an area of approximately 741.46 Ha out of the requested land area of approximately 852.52 Ha. The rest of 111.05 Ha located in forest areas are under process of obtaining the forest area status permit.
<b>9</b> Land Procurement Planning Document (DPPT) & Location Determination (Penlok)	December 2023 and Q1 2024	DGWR is in the process of preparing DPPT Determination which is targeted to be finished at the end of 2023 and Location Determination is targeted to be started in Q1 2024.
<b>10</b> Final AP Confirmation	2024	The Directorate of Water Resources Infrastructure Financing will process the Final AP Confirmation after the FBC document is completed.
<b>11</b> Land Acquisition	2024	Land Acquisition process is targeted to be started on May 2024 until 2026.

Desc:

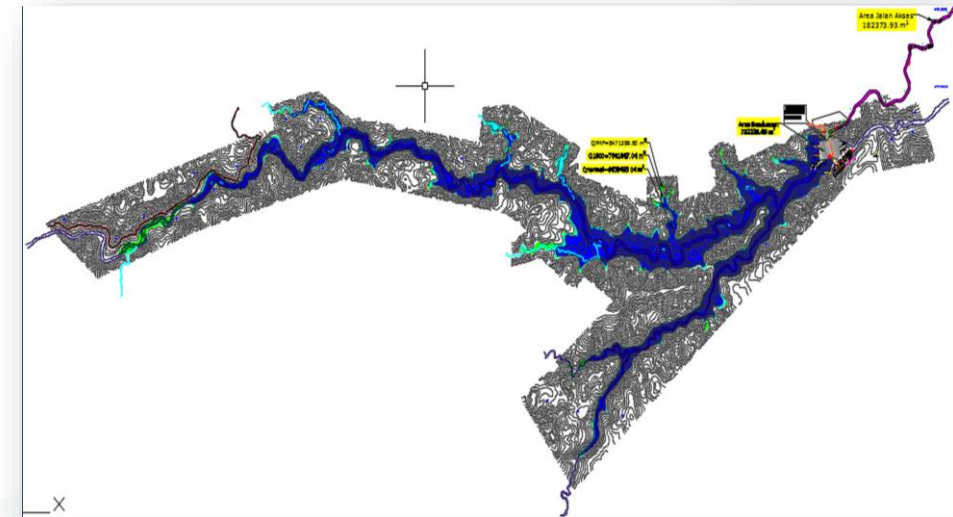
Completed

On-progress

Has not Commenced

No.	Land Location	Area Size (Ha)	Land Use
1.	Dam Site	36.01	Non-Forest Area (APL), included: <ul style="list-style-type: none"> <li>• Gold mines (26.04 Ha)</li> <li>• Fields (29.59 Ha)</li> </ul>
2.	Dam Site Access Road	17.87	
3.	Disposal Area	26.10	
4.	Quarry Access Road	4.25	
5.	Quarry Area	46.83	
6.	Right Inundation	336.44	A portion of the area constitutes a production forest covering of 68.69 Ha and the rest of the land is Non-Forest Area.
7.	Left Inundation	385.72	
<b>Total</b>		<b>853.22</b>	

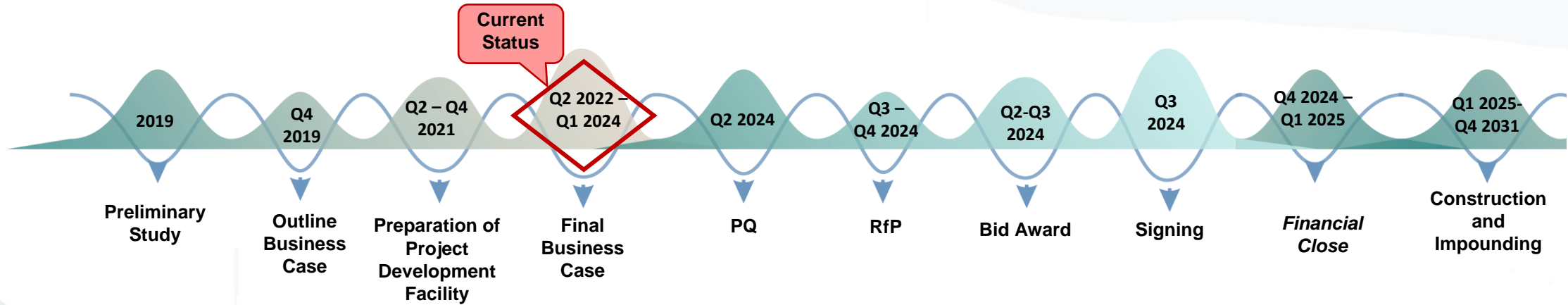
## Inundation Plan of Merangin Dam



According to the LARAP document, the total land area to be acquired is 853.22 Ha which covers 4 districts and 6 villages in Merangin Regency.

The discrepancy in the approved land area by the Ministry of Spatial Planning (741.46 Ha) from the total proposed area (852.52 Ha) is due to the fact that some areas are forest. Land over forest areas requires a process to release forest area status.

## INDICATIVE PROJECT TIMELINE



## SUMMARY OF READINESS CRITERIA

**9**

**Finished Readiness Criteria**

*Including: FS, DED, OBC, Ministerial Decree of the Delegation of GCA, PPP Team Officiating Decree, LARAP, EIA, Initial AP Confirmation, Screening Form.*

**5**

**On-Progress Readiness Criteria**

*Including: FBC, Land Procurement Planning Document (DPPT), Regional Spatial Plan, Environmental Permit, Forest Area Permit.*

**Land Acquisition Target**  
**Location Determination (Penlok)**

1. Land acquisition Planning
2. Preparation for Land Acquisition
3. Land Acquisition Process

**Timeline:**  
**May 2024 – 2026**





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# THANK YOU

