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Press Statement

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“CONVERTING” THE EXPANDED MENGKUANG DAM TO MITIGATE PENANG’S RAW WATER RISKS

- **Penang’s largest dam will be converted from a “strategic drought reserve dam” to a “daily dam”.**
- **2 new raw water pipelines to boost maximum drawdown capacity from 300 million litres per day (MLD) to 1,000 MLD.**
- **New 114 MLD water treatment plant nearby to the dam.**

PENANG, Friday, 7.10.2022: A plan is underway to convert the Expanded Mengkuang Dam (EMD) in Seberang Perai Tengah (SPT) from a “strategic drought reserve dam” into a “daily dam”.

Basically, this means that raw water stored in the EMD will be available for daily drawdowns and emergencies, when the river level of Sungai Muda is low during the dry seasons or when the Muda River water quality is compromised and cannot be treated. With this conversion, the EMD will function like the Air Itam Dam and Teluk Bahang Dam on Penang Island.

1. The primary objective is to mitigate the risks of a state-wide unscheduled water supply interruption whenever high turbidity raw water from Sungai Muda threatens treated water operations at the Sungai Dua Water Treatment Plant (WTP).
2. The secondary objective is to treat water from Penang’s largest dam, on a daily basis, to support increasing water demand in Seberang Perai Utara (SPU) and Seberang Perai Tengah (SPT).

PBAPP plans to unlock the full potential of the EMD, Penang’s largest dam, to mitigate water supply risks and address growing water demand.

Engineering Requirements

The conversion of the EMD into a daily dam to fulfil these 2 key objectives requires the timely commissioning of the following 4 key water supply engineering projects:

Projects	Responsibility
1. Phase 2B of the Mengkuang Dam Expansion Project (MDEP): Laying 7km of 1.6m diameter pipeline from the Mak Sulong Pumping Station to the Sungai Dua Canal. This new pipeline will upgrade raw water drawdown capacity from 300 million litres per day (MLD) to 600 MLD.	Federal Government
2. Laying additional raw water pipelines with a 400 MLD delivery capacity to further boost drawdown capacity to 1,000 MLD.	Penang State Government
3. Phase 2C of the MDEP: Construction of the 440 MLD Lahar Yooi Pumping Station to enable rapid refilling of the EMD from a second raw water resource: Sungai Muda.	Federal Government
4. Construction of a new 114 MLD Mengkuang Dam WTP nearby to the dam.	PBAPP

Mitigating Raw Water Risks (Sungai Muda)

Sungai Muda is Penang's primary raw water resource. In the period from July to September 2022, PBAPP reported 3 incidents of high raw water turbidity from Sungai Muda. The likely causes of these phenomena are 3 reported incidents of flash floods in Baling, Kedah, upstream of PBAPP's Lahar Tiang Intake.

In July 2022, highly turbid water from Sungai Muda compelled PBAPP to shut down the Sungai Dua WTP (Penang's largest WTP) causing a 6-day unscheduled state-wide water supply interruption.

To minimise the risks of a recurrence, PBAPP plans to temporarily stop abstracting raw water from Sungai Muda whenever such incidents recur in the future.

However, the Sungai Dua WTP must have continuous access to about 1,000 MLD of raw water from Mengkuang Dam to avoid a state-wide water supply interruption.

As such, PBAPP will develop the capacity to draw down 1,000 MLD from the Mengkuang Dam in the future, whenever Sungai Muda's raw water quality is compromised.

Presently, PBAPP's maximum drawdown capacity is 300 MLD.

With the commissioning of Phase 2B of the MDEP by the Federal Government, the maximum drawdown capacity will be increased to 600 MLD. With the commissioning of another set of 400 MLD pipelines undertaken by the Penang State Government, the maximum drawdown capacity will reach 1,000 MLD.

The laying of these new delivery pipelines should be fast-tracked for completion to address Penang's raw water risks, as related to Sungai Muda.

Moreover, Phase 2C of the MDEP should also be fast-tracked by the Federal Government for commissioning so that the EMD may be refilled promptly during the dry seasons, to function optimally as a daily dam.

To Solve The Water Crisis in Seberang Perai Selatan (SPS)

Plans are also underway to build a new 114 MLD Mengkuang Dam WTP at a location nearby to the EMD. This WTP is scheduled for commissioning by December 2025.

The Mengkuang Dam WTP's service area will be Seberang Perai Utara (SPU) and the township of Bukit Mertajam nearby. When this WTP is operational, PBAPP will also be able to "free up" and deliver additional treated water from the Sungai Dua WTP to Seberang Perai Selatan (SPS).

PBAPP is also planning to build another new 114 MLD WTP near Sungai Kerian (at the southern boundary of Penang and Perak) to address the water needs of the SPS community. The proposed Sungai Kerian WTP is scheduled for commissioning in December 2026.

EMD Background

The "original" Mengkuang Dam was opened in 1985. Its original maximum effective capacity was 22.3 billion litres of raw water. Raw water is pumped from Sungai Kulim via the Mak Sulong pumping station during wet seasons for water supply drawdowns during dry seasons.

In the period 2014 to 2020, the dam was “closed” to facilitate expansion under Phase 1 and Phase 2A of the Mengkuang Dam Expansion Project (MDEP). These two phases of the MDEP were undertaken and financed by the Federal Government.

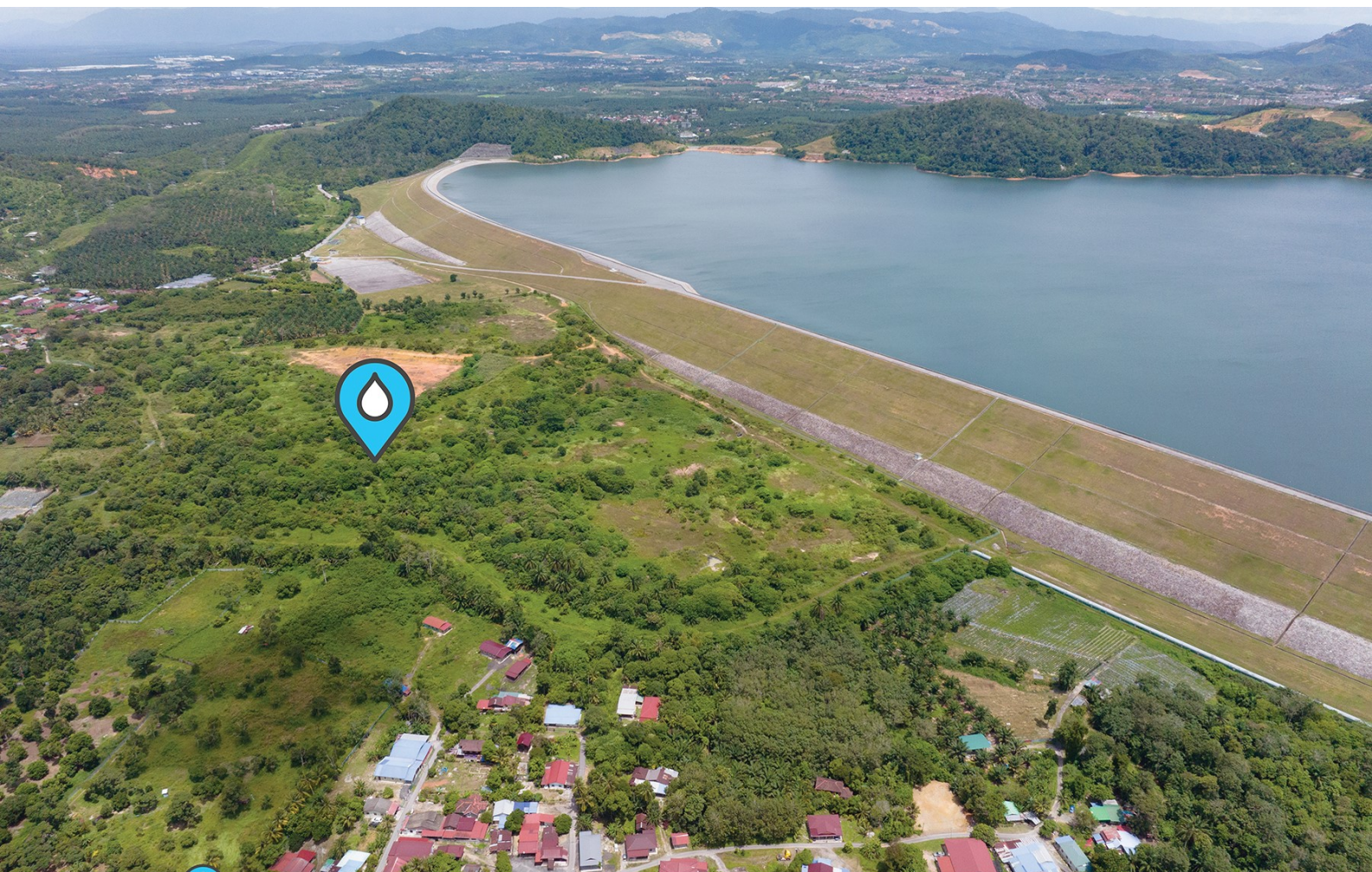
On 9.1.2021, Penang Chief Minister YAB Tuan Chow Kon Yeow officiated the opening of the EMD, after its maximum effective capacity was increased to 86.4 billion litres.

Please note that Penang is still awaiting the commissioning of Phase 2B and 2C of the MDEP by the Federal Government.

The conversion of the EMD into a daily dam is part of PBAPP’s Raw Water Contingency Plan (RWCP) 2030 to ensure water supply security for the Penang state until the year 2030.

Thank You.

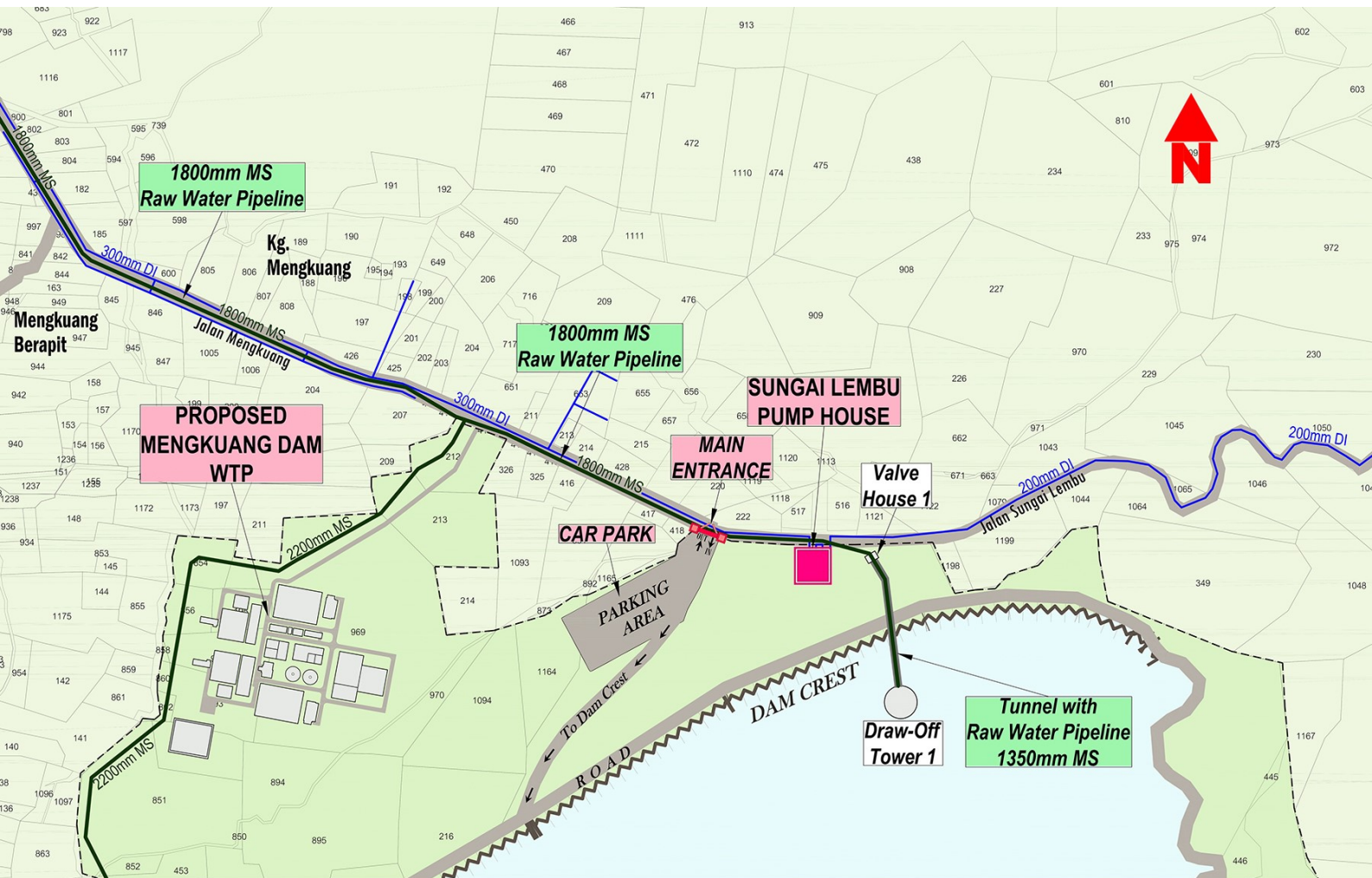
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Proposed location of the Mengkuang Dam WTP © PBAPP 2022



The Expanded Mengkuang Dam (EMD): Penang's largest dam © PBAPP 2022



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