TALK ON "TMDL APPROACH IN RIVER WATER QUALITY IMPROVEMENT-A CASE STUDY"
Organised by Water Resources Technical Division, IEM
BEM Approved CPD/PDP Hours: 2 Ref No. IEM19/HQ/273/T

Date	: **29th June 2019 (Saturday)**
Time	: **9.00 am to 11.00 am** *(Refreshments will be served)*
Venue	: **Malakoff Auditorium, Ground Floor, Wisma IEM, Petaling Jaya**
Speaker	: **Ir. Dr. Wong Wai Sam**

SYNOPSIS

Total Maximum Daily Load (TMDL) is a regulatory term in the U.S. Clean Water Act, describing a value of the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. In essence, TMDL is an allocation of a pollutant deemed acceptable to the receiving waters. Calculating the TMDL for any given body of water involves the combination of factors that contribute to the problem. Bodies of water are tested for contaminants based on their intended use. Each body of water is tested similarly but designated with a specific TMDL.

For a more effective manner as well as for long term sustainability of the intended water quality target, the TMDL needs to be established at various strategic locations of the said water body such as along a river system so that:

- The allowable maximum pollutant loads from each sub-catchment can be determined;
- Critical pollutant load parameters can be identified at sub-catchment level;
- More effective controls and improvement measures of the critical pollutant loads from each sub-catchment can be enforced and implemented
- More efficient monitoring system of each sub-catchment can be designed and implemented

Conceptually TMDL is the end product of all point and non-point source pollutants of a single contaminant. Pollutants that originate from a point source are given allowable levels of contaminants to be discharged.

For the case study, advanced hydrological and hydrodynamic modelling was used to simulate the low and high flow discharges of the river system. For the water quality modelling, QUAL2K has been adopted to assess the contributions of point and nonpoint sources and their effects on water quality parameters along the river system for the present and future scenarios. Extensive data collection had been carried out from site and relevant agencies. Model calibrations were then carried out based on the data collected to establish the relevant parameters in the models before they were used to simulate various proposed improvements under critical flow conditions.

BIODATA OF SPEAKER

Ir. Dr. Wong Wai Sam is a Director at MegaConsult Sdn. Bhd. and currently is the Advisor and Immediate Past Chairman of the Water Resources Technical Division (WRTD). His expertise is in Hydrology, Hydraulic & Hydrodynamic, Hydrogeologist and Water Quality. He actively involves in stormwater drainage and flood mitigation studies, sediment erosion and transport studies, flood forecasting, water quality, integrated river basin & water resources management studies, hydraulic design and computer modelling works. He is also active in the Malaysia Stormwater Organisation (MSO) in providing training courses for Certified Professional for Erosion & Sediment Control (CPESC) and Certified Professional for Storm Water Quality (CPSWQ).

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