

WATER SUPPLY TREATMENT
SUSTAINABILITY OF SEMAMBU WATER
TREATMENT PLANT (WTP) – A WATER
FOOTPRINT APPROACH

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SUPERVISOR'S DECLARATION

I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of the Bachelor Degree in Civil Engineering

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STUDENT'S DECLARATION

I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

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Thesis submitted in fulfillment of the requirements
for the award of the
Bachelor Degree in Civil Engineering

Faculty of Civil Engineering and Earth Resources
UNIVERSITI MALAYSIA PAHANG

JUNE 2017

ACKNOWLEDGEMENTS

Praise be to Allah, the Lord of Universe

I would like to use this opportunity to express my gratefulness and thousands of thanks to all those who have supporting, sacrifice and contribute in completing my thesis. Deeply praise to Allah SWT for the blessing and chance for allowing me passing the entire obstacle and accomplish this thesis on time.

I would like to express sincere appreciation and thanks to my supervisor, Dr. Edriyana A.Aziz, for her guidance, advices and encouragement in all aspect through this project. Highly appreciate for her comments, criticism, patience and availability although she has already busy with her commitment. The knowledge she gives to me were precious and priceless.

Heartfelt gratitude and love to my parents, siblings and friends who were supporting, contribution, guidance, help and sacrifice their times through research are not comparable with anything in this world.

Finally, not to be forgotten, I would express appreciation to En. Syazwan Nizam, Muhamad Nabil Fikri, lecturers, staffs and all my friends in final years in the Faculty of Civil Engineering and Earth Resources, for their ideas and supports. Thank you so much for all the help, information and braveness through all the difficult time in doing the project and to finish study. Highly appreciate and millions of love for all of you from me.

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LIST OF SYMBOLS

CO_2	Carbon Dioxide
NH_3	Ammonia
DO	Dissolve Oxygen
VOC	Volatile Organic Compound
D_N	Demand
C	Capacity
F	Factor
W_{DN}	Water Demand
P_N	Population
L_{CRIT}	Critical load
R	Runoff of water bodies
C_{MAX}	Maximum acceptable concentration
C_{NAT}	Concentration in the receiving water body
ET_0	Reference evapotranspiration
T_{MEAN}	Mean daily temperature

LIST OF ABBREVIATIONS

SBPWM	Simple Boost Pulse Width Modulation
WSTP	Water Supply Treatment Process
WTP	Water Treatment Plant
LCA	Life Cycle Assessment
WF	Water Footprint
WF _{BLUE}	Blue Water Footprint
WF _{GREY}	Grey Water Footprint
WF _{GREEN}	Green Water Footprint
WWTP	Waste Water Treatment Process
DID	Department of Drainage and Irrigation
MPK	Majlis Perbandaran Kuantan
PAIP	Pengurusan Air Pahang Berhad