

APPROVAL

Final Project Report

**THE DESIGN OF RUNWAY OF NEW YOGYAKARTA
INTERNATIONAL AIRPORT**


by:

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has been approved by Supervisor

Yogyakarta, February 28, 2018

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APPROVAL

Final Project Report


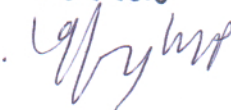
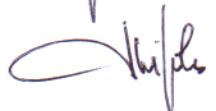
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Has been examined and approved by the examination committee

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Chairman	: Ir. Y. Lulie, M.T.		FEB 28, 2018
Examiner	: FX. Pranoto Dirhan P., S.T., MURP.		
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STATEMENT

I signed below stating that the final project with the title:

“THE DESIGN OF RUNWAY OF NEW YOGYAKARTA INTERNATIONAL AIRPORT”

It is the result of my own work and not a result of plagiarism of other people's work. Ideas, research data, and quotes directly or indirectly derived from the writings or ideas of others expressly provided in this Final Project. If it is proven later that this Final Project is the result of plagiarism, the graduation certificate that I received will be canceled and returned to Universitas Atma Jaya Yogyakarta.

Yogyakarta, April 24th 2018

Who made the remarks,

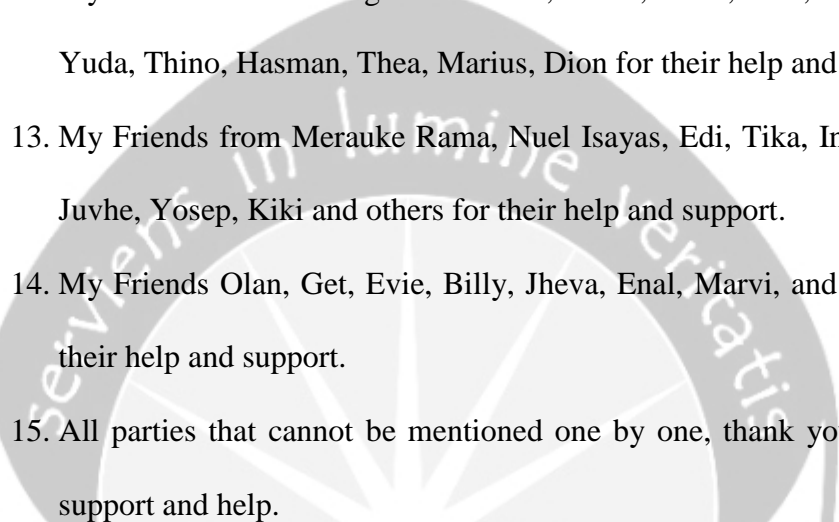


Hary Festa Gultom

PREFACE

First and foremost, I would like to thank to Jesus Christ for his blessing, therefore I can prepare and finish this final project. For the completion of this final project, I would like to express my gratitude towards:

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I realize, this report may be flawed. Therefore, I accept any form of suggestion for further improvement. Thank you.

Yogyakarta, 14 February 2018

The Authour

Hary Pesta Gultom

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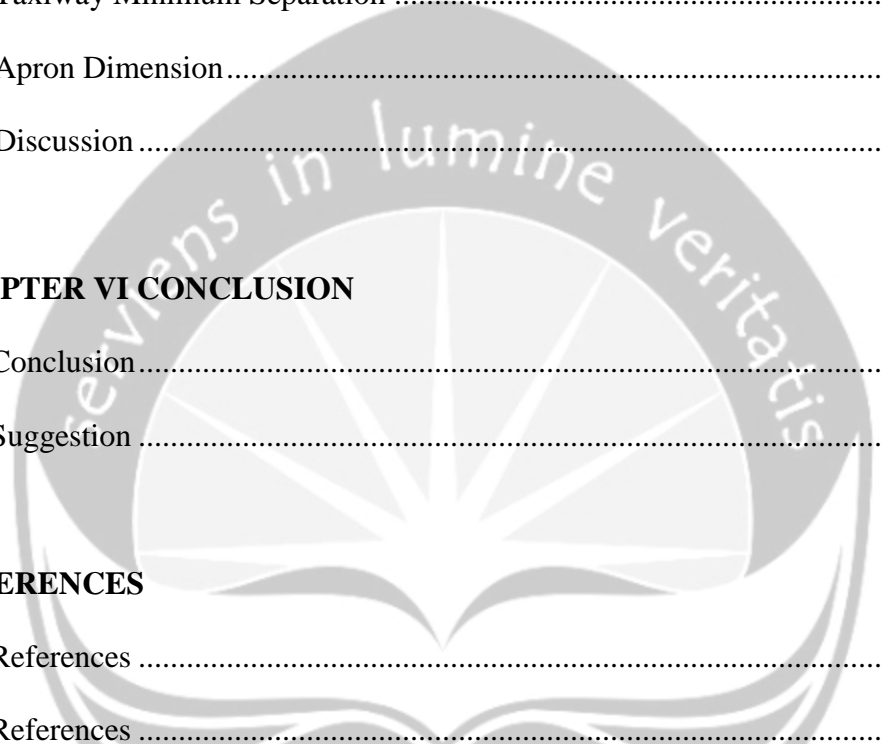
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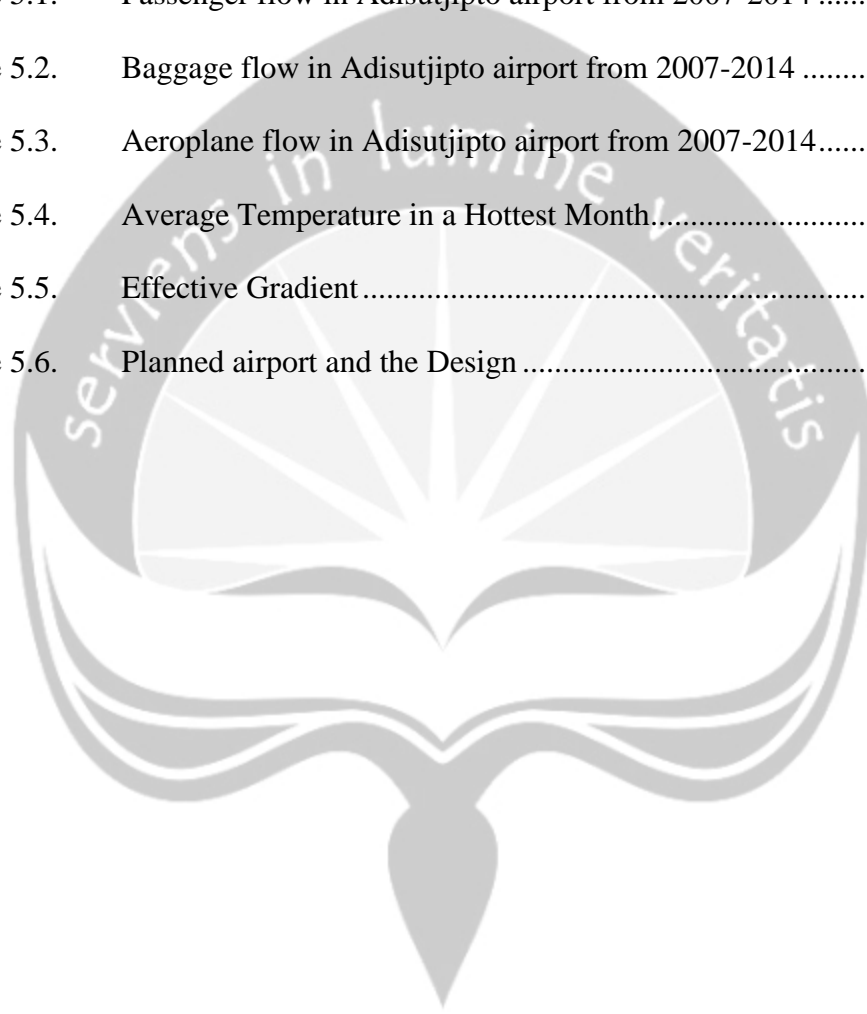
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ABSTRACT

DESIGN OF NEW YOGYAKARTA INTERNATIONAL AIRPORT RUNWAY, Hary Pesta Gultom, Student ID 13.13.15012, 2017, Transportation Engineering, International Civil Engineering Program, Civil Engineering Department, Faculty of Engineering, Universitas Atma Jaya Yogyakarta.

Many people come to Yogyakarta to have a vacation, study, etc. Most of the peoples come from another province to study. This makes the transportation services must handle the big number of peoples who come to Yogyakarta. The Yogyakarta Adisutjipto airport can facilitates the number of people to come to Yogyakarta. But now on, the number is increasing heavily and Adisutjipto airport are no longer to handle that. It is planned to have the new airport to handle the increase number of passenger. But the airport is still has in planning phase.

New airport is planned to handle Boeing 747-400. Although, the construction is not yet been constructed, but the design must be planned. According to the International Code Aviation Organization ICAO¹, the airport must be in 4E code to build airport to handle the Boeing 747-400. This writing is meant to design, especially in runway. The method will be on survey directly to the area of construction in Temon, Kulon Progo. Another methods is by discussing with the officer in Angkasa Pura 1 who handles the project of the new airport. The survey it self is based on the location of the project. The data is taken from the historical data from Adisutjipto airport, to handle the outter data needed to design the airport.

The planning of air side facilities especially runway, taxiway, and apron can handle planes in the future in this case Boeing 747-400. The future passenger is used trendline whereas the time is limited to 2024 (10 years) and the result of passenger arrivals is 5,433,567 passengers and for departure is 5,622,665 passengers, the aeroplane arrivals is 44,759 planes and departures is 44,664 planes and for the baggage loaded is 34,498,407 kg and unloaded is 7,980,865 kg. Air side planning is covers geometric in length and wide of the runway, taxiway, and apron according to requirements in ICAO and Annex-14 Aerodromes and planned plane characteristic where the runways have 3250 x 60 m and 3600 x 60 m, total width of the runway is 200 m consist of runway, and runway shoulder. The width of taxiway is 30 m, taxiway shoulder is 40 m and the taxiway strip is 90 m. Total width of the taxiway is 90 m which consist of the taxiway width, shoulder, and taxiway strip. The length of the apron is 176 m and the width is 2,294 m.

¹ International Code Aviation Organization. Organization that codifies the principles, techniques, planning, and development of international air transport to ensure safe and orderly growth.