

**STUDI PENGARUH LAMA PELAKSANAAN PEKERJAAN
KONSOLIDASI TERHADAP STABILITAS TIMBUNAN PROYEK
PEMBANGUNAN BANDARA SAMARINDA BARU**

Oleh :

M. Kurniawan Syah Pratama¹⁾, Muhammad Alim Al Amien¹⁾
Dr. Ir. Rinda Karlinasari, M.T²⁾, Ir. Gata Dian Asfari, M.T²⁾

Abstrak

Kota Samarinda merupkota terletak dipulau Kalimantan, saat terdua bandara beroperasi Bandara Temindung Bandara Samarinda Baru (BSB). Bandara Samarinda Baru juga diberi nama Bandara Aji Prince Tumongon Pranoto (ATP Pranoto), merupbandara baru dibangun dikawasan Sungai Xilintipetanah gambut. runway bandara STA 0+600, metode perbaikantanah menggunakan preloading sistem drainase vertikal prefabrikasi (PVD).

tugas akhir dilakukan analisis perbandingan jumlah faktor keamanan terhadap lama waktu pelaksanaan pekerjaan tulanganlama pekerjaan tulangan berbeda-beda : 10 hari, 15 hari 30 hari.

Berdasarkan analisa kami menggunakan Plaxis 8.2, didapatkan bahwa semakin lama waktu kerja konsolidasi maka semakin tinggi faktor keamanannya. pemodelanpekerjaan konsolidasi 10 hari didapatkan faktor keamanan (<1) sebesar 0,98 tanggul 2 meter. model konsolidasi 15 hari tanggul 2 meter, faktor keamanannya ialah 1,03, sedangkan faktor keamanan tanggul 3 meter ialah (<1). modelmasa konstruksi 30 hari, faktor keamanan konsolidasi proyek tanggul 2 meter ialah 1,6, tanggul stabil (>1,5) setelah konstruksi, pengurangan total 2 cm. Tekanan air pori melebihi standar sebesar 19 kN/m² tahun pertama setelah konstruksi, turun 5 cm sepuluhtahun setelah konstruksi, tekanan air melebihi standar sebesar 2,4 kN/m².

Kata Kunci : Bandara; PVD (Pre-Fabricated Vertical Drain; Plaxis 8.2; waktu; konsolidas;. Keamanan.

¹⁾ Mahasiswa Fakultas Teknik Program Studi Teknik Sipil UNISSULA

²⁾ Dosen Fakultas Teknik Program Studi Teknik Sipil UNISSULA

STUDY ON THE EFFECT OF THE DURATION OF THE WORK ON STABILITY OF THE HEAP IN THE CONSTRUCTION PROJECT OF THE NEW SAMARINDA AIRPORT

By :

M. Kurniawan Syah Pratama¹⁾, Muhammad Alim Al Amien¹⁾
Dr. Ir. Rinda Karlinasari, M.T²⁾, Ir. Gata Dian Asfari, M.T²⁾

Abstract

Samarinda is located on the island of Borneo and currently has two operating airports, namely Temindung Airport and New Samarinda Airport (BSB). Samarinda Baru Airport, also named Aji Pangeran Tumenggung Pranoto Airport (ATP Pranoto), is a newly built airport built in the Siring River area with peat soil type. At the airport runway 0 + 600 STA, the soil improvement method using pre-loaded and pre-fabricated vertical drainage system (PVD).

In this final project, a comparative analysis of the number of safety factors was carried out on the length of time to implement the reinforcement work. The changes in working time were: 10 days, 15 days, and 30 days.

According to our analysis using Plaxis 8.2, it is found that the longer the consolidation work time, the higher the safety factor. In the modeling of the 10-day consolidation work, the safety factor (<1) of the 2-meter embankment is 0.98. In the 15-day model for strengthening the two-meter embankment, the safety factor is 1.03, while the safety factor of the three-meter embankment is (<1). In the model with a construction period of 30 days, the consolidation safety factor of the 2-meter embankment project is 1.6, and the embankment stability (>1.5) after the completion of the construction is reduced by 2 cm in total. In the first year after construction, the pore overwater pressure was 19 kN/m², and the total pressure was reduced by 5 cm in the ten years after construction, and the overwater pressure was 2.4 kN/m².

Keywords : Airports; PVD (Pre-Fabricated Vertical Drain); Plaxis 8.2; time; consolidation; safety;

¹⁾Civil Engineering Student of Sultan Agung Islamic University Semarang

²⁾Lecturer in Civil Engineering at Sultan Agung Islamic University Semarang