

**FINAL ASSIGNMENT**

**RECALCULATION**

**CABLE-STAYED OF SURAMADU BRIDGE**

**Proposed to Fulfill Academic Requirement For**  
**Civil Engineering Degree in Faculty**  
**of Engineering of UNISSULA**



**Drafted By :**

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**CIVIL ENGINEERING DEPARTEMENT**

**ENGINEERING FACULTY**

**UNIVERSITAS ISLAM SULTAN AGUNG SEMARANG**

**2018**



# DECLARATION

The undersigned below :

Name : 1. Irwan Adriyansyah

(30201403801)

2. Khaerul Anwar

(30201403812)

Department : Civil Engineering

I hereby declare this our Final Assignment is entitled : **RECALCULATION CABLE-STAYED SURAMADU BRIDGE** is a scholarly work free from plagiarism. If later there is proven plagiarism from this final assignment, then I am willing to accept sanction in accordance with applicable legislation.

Semarang, September 7 2018

By :



Irwan Adriyansyah



Khaerul Anwar

Approved :

Co - Supervisor

Supervisor

A large, stylized handwritten signature in blue ink.

Ir. Gatot Rusbintarjo, M.R.Eng.Sc., Ph.D

Dr. Ir. Rinda Karlinasari, MT





**YAYASAN BADAN WAKAF SULTAN AGUNG  
UNIVERSITAS ISLAM SULTAN AGUNG  
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**APPROVAL PAGE  
FINAL ASSIGNMENT**

**“RECALCULATION  
CABLE-STAYED OF SURAMADU BRIDGE”**



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Have been approved at, September 7<sup>th</sup>, 2018

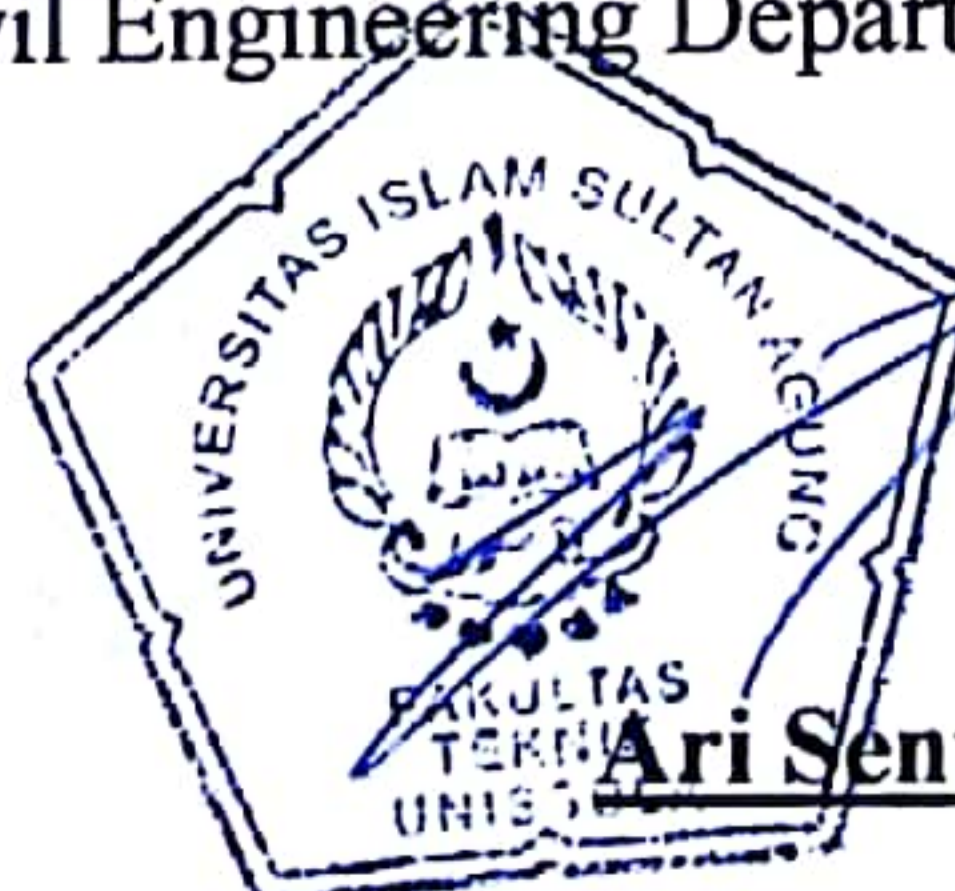
Supervisor

Co - Supervisor

**Ir. Gatot Rusbintardjo, M.R.Eng MSc.,Ph.D**

**Dr. Ir. Rinda Karlinasari, MT**

Approved By,  
Head of Civil Engineering Department, Engineering Faculty, UNISSULA



**Ari Sentani, ST.,M.Sc**





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**BERITA ACARA BIMBINGAN TUGAS AKHIR**

**Nomor : 17 / A.2 / SA – T / III / 2018**

Pada hari ini, Kamis tanggal 16 Agustus 2018 berdasarkan Surat Keputusan Ketua Jurusan Universitas Islam Sultan Agung (UNISSULA) Semarang perihal penunjukan Dosen Pembimbing Tugas Akhir:

1. Nama : Ir. Gatot Rusbintardjo, M.R.Eng.M.Sc.,Ph.D  
Jabatan Akademik : Lektor
2. Nama : Dr. Ir. Rinda Karlinasari, MT  
Jabatan Akademik : Lektor

dengan ini menyatakan bahwa Mahasiswa yang tersebut di bawah ini:

1. Nama : Irwan Adriyansyah  
Nim : 30201403801
2. Nama : Khaerul Anwar  
Nim : 30201403812  
Jurusan : Teknik Sipil

telah menyelesaikan Tugas Akhir dengan Judul Recalculation Cable-Stayed of Suramadu Bridge.

Adapun tahapan Tugas Akhir adalah sebagai berikut :

No.	Tahapan	Tanggal
1	Penunjukan Dosen Pembimbing	19 April 2018
2	Pengumpulan Data	25 April 2018
3	Penyusunan Laporan	3 Mei 2018 – 16 Agustus 2018
4	Selesai Laporan	16 Agustus 2018
5	Seminar Tugas Akhir	29 Agustus 2018

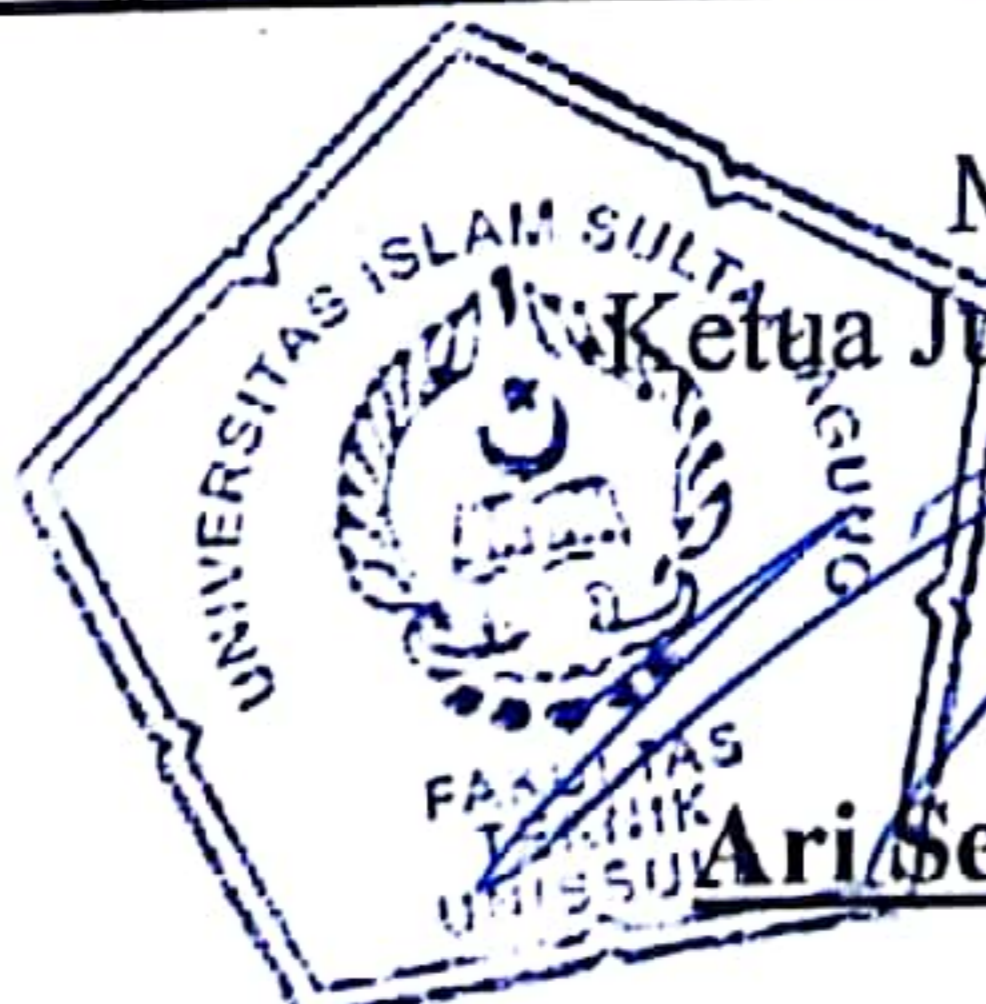
Demikian Berita Acara Bimbingan Tugas Akhir atau Skripsi ini dibuat untuk diketahui dan dipergunakan seperlunya oleh pihak-pihak yang berkepentingan.

Dosen Pembimbing I

Dosen Pembimbing II

Ir. Gatot Rusbintardjo, M.R.Eng.M.Sc.,Ph.D

Dr. Ir. Rinda Karlinasari, MT



Mengetahui,  
Ketua Jurusan Teknik Sipil

Arisentani, ST, M.Sc



## MOTTO

فَأَرْغَبْ رَيْكُوْإِلَى (7) فَأَنْصَبْ فَرَعْتَ فَإِذَا (6) يُسْرًا أَلْعُسْرَ مَعَ إِنَّ (5) يُسْرًا أَلْعُسْرَ مَعَ فَإِنَّ (8)

“Because in fact after the difficulty there is convenience (5) in fact after the difficulty there is convenience (6) then when you have finished something of an affair, work hard on other matters (7) and only to your god should you hope (8)”.

(QS. Al Insyirah : 5-8)

رَشَدًا أَمْرُنَا لَنَا مِنْ وَهْيِي رَحْمَةً لَدُنْكَ مِنْ آتِنَا رَبَّنَا (10)

“ Wahai tuhan berikanlah rahmat kepada kami dari sisi-Mu dan sempurnakanlah bagi kami petunjuk yang lurus dalam urusan kami (ini) ”

(QS. Al Khahfi : 10)

“Yes my rabb, lay it for me on my chest and make it easy for me my affairs and release the rigidity from my tongue so they understand my words”.

(QS. Thoha : 25-28)

“On this day every soul be rewarded with what it earned, no one harmed today. Allah is swift at reckoning”.

(QS. Al Ghafir : 17)

## **DEDICATION**

I dedicated this final assignment to the knowledge of bridge engineering as my  
worship to Allah Subhana Wa Ta'ala

## ACKNOWLEDGEMENTS

Alhamdulillah rabbil'alamin, upon *Ridho* and *Rahmat Allah Subhana Wa Ta'ala* this final assignment report with title “**Recalculation Cable-Stayed of Suramadu Bridge**” can be completed.

Drafting of final assignment are one of academic requirements for college students of civil engineering UNISSULA to reach bachelor degree. By this final assignment, the college student can increase their knowledge and can practice their science.

On this opportunity let the drafter to thank to everyone who have helped drafter by power, thinking, costs, and advice. In particular, I wish to express my sincere appreciation to my main final assignment supervisor, Ir. Gatot Rusbiantardjo, M.R.Eng.Sc.,Ph.D., for his encourage, guidance, criticism, and friendship. I am also very thankful to my co-supervisor Dr. Ir. Rinda Karlinasari, M.T. for his guidance, advice, and motivation. Without their continued support and interest, this final assignment report would not have been the same as presented here.

My special thanks are addressed to Dean of the Engineering Faculty of UNISSULA, Ir. H. Rahmat Mudiyo, M.T., Ph.D. and Head of Civil Engineering Department, Engineering Faculty of UNISSULA Ari Sentani, ST, M.Sc. for permission, to take final assignment as the requirement for reaching bachelor degree in Civil Engineering in Engineering Faculty of UNISSULA. To my guardian lecturer, Ir. Gatot Rusbiantardjo, M.R.Eng.Sc.,Ph.D., for four years guidance.

Very special thanks are given to my beloved parent and my family for all support. I also would like to thank to Khaerul Anwar as my partner, for all that we have been through together. Thank to Isnah Kumiyati, Widiya Agustin, Alif Yusron, Hilda Tussolikha, Ayu Dwi Astuti, Fikri Khoiril Reza for their patience, prayers, and understanding during this study were always a blessing. Thank you to my college friends for their good cooperation during four years studying in Engineering Faculty of UNISSULA 2014.

Semarang, Agustus 2018

Irwan Adriyansyah