

FINAL ASSIGNMENT

SUB STRUCTURE & FOUNDATION OF SUNDA STRAIT BRIDGE

**Proposed to Fulfill Academic Requirement for
Civil Engineering Degree in Faculty
of Engineering of Sultan Agung Islamic University**



By:

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**CIVIL ENGINEERING DEPARTMENT ENGINEERING
FACULTY
SULTAN AGUNG ISLAMIC UNIVERSITY
SEMARANG**

2019

PROPOSED FINAL ASSIGNMENT RESEARCH

DESIGN OF UPPER STRUCTURE OF SUNDA STRAIT SUSPENSION BRIDGE

Proposed by:

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Approved by:

Supervisor

Ir. Gatot Rusbiantardjo, M.R.Eng MSc., Ph.D

Date :

Co-Supervisor

Lisa Fitriyana, ST., M.Eng.

Date :

Approved By,





**YAYASAN BADAN WAKAF SULTAN AGUNG
UNIVERSITAS ISLAM SULTAN AGUNG (UNISSULA)
FAKULTAS TEKNIK**

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APPROVAL PAGE

“SUBSTRUCTURE OF SUNDA STRAIT BRIDGE”

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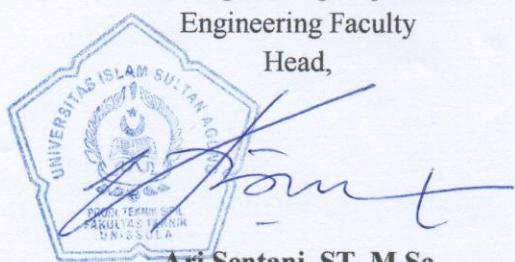
Has been approved in Semarang, February , 2019

Examiner Team

1. Ir. Gatot Rusbintardjo, M.R.Eng., M.Sc., Ph.D
2. Lisa Fitriyana, ST.,M.Eng.
3. Dr. Abdul Rochim., ST., MT

Signature

Sultan Agung Islamic University
Civil Engineering Department
Engineering Faculty
Head,



Ari Sentani, ST. M.Sc



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BERITA ACARA BIMBINGAN TUGAS AKHIR

Nomor: / / / 2019

Pada hari ini, Pebruari 2019 berdasarkan surat keputusan rektor Universitas Islam Sultan Agung (UNISSULA) Semarang perihal penunjukan dosen pembimbing dan asisten dosen pembimbing:

- | | | |
|------------------|---|---|
| 1. Nama | : | Ir. Gatot Rusbintardjo, M.R.Eng., M.Sc., Ph.D |
| Jabatan Akademik | : | Lektor |
| Jabatan | : | Dosen Pembimbing I |
| 2. Nama | : | Lisa Fitriyana, ST.,M.Eng |
| Jabatan Akademik | : | Asisten Ahli |
| Jabatan | : | Dosen Pembimbing II |

Dengan ini menyatakan bahwa mahasiswa yang tersebut di bawah ini telah menyelesaikan bimbingan Tugas Akhir / Skripsi :

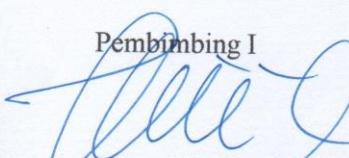
Nama	:	Harguna Jalu Winanda	Nama	:	M. Taufiqul Hakim
NIM	:	30.2017.00.202	NIM	:	30.2017.00.205

Judul : Substructure of Sunda Strait Bridge
Dengan tahapan sebagai berikut :

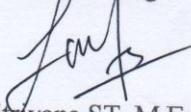
No	Tahapan	Tanggal	Keterangan
1	Penunjukan dosen pembimbing		
2	Proposal		ACC
3	Pengumpulan data		
4	Analisis data		
5	Penyusunan laporan		
6	Selesai laporan		ACC

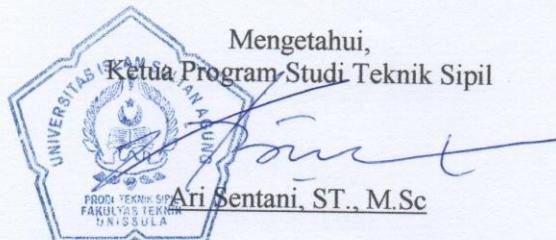
Demikian Berita Acara Bimbingan Tugas Akhir / Skripsi ini dibuat untuk diketahui dan dipergunakan seperlunya oleh pihak-pihak yang berkepentingan

Pembimbing I


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

Pembimbing II


Lisa Fitriyana, ST.,M.Eng.



DECLARATION OF AUTHENTICITY

The undersigned below:

1. NAME : HARGUNA JALU WINANDA

NIM : 3.02.017.00202

2. NAME : M. TAUFIQUL HAKIM

NIM : 3.02.017.00205

TITLE : SUBSTRUCTURE OF SUNDA STRAIT BRIDGE

Hereby declare that this Final Assignment is the result of my own original research, thought and presentation. I don't include without recognition material-material that has been previously published or written by someone else, or as an ingredient that has been submitted for a degree or diploma at the Sultan Agung Islamic University of Semarang or other universities.

If in the future there are deviations and untruths in this statement, then I am willing to accept academic sanctions in accordance with the regulations that apply at Sultan Agung Islamic University, Semarang.

Thus I made this declaration.

Semarang, February 2019

By,



Harguna Jalu Winanda
NIM. 3.02.017.00202



M. Taufiqul Hakim
NIM. 3.02.017.00202

MOTTO

خَيْرُ النَّاسِ أَنْفَعُهُمْ لِلنَّاسِ

“Sebaik-baik manusia adalah yang paling bermanfaat bagi orang lain” (*Hadits Riwayat ath-Thabrani, Al-Mu’jam al-Ausath, juz VII, hal. 58, dari Jabir bin Abdullah r.a.. Dishahihkan Muhammad Nashiruddin al-Albani dalam kitab: As-Silsilah Ash-Shahîhah*)

من دَلَّ على خَيْرٍ فَلَهُ مِثْلُ أَجْرِ فَاعِلِهِ

“Barang siapa menunjuki kepada kebaikan, maka ia akan mendapatkan pahala seperti pahala orang yang mengerjakannya” (*HR. Muslim no. 1893*)

فَإِنَّ مَعَ الْعُسْرِ يُسْرًا ﴿٦﴾ إِنَّ مَعَ الْعُسْرِ يُسْرًا

5. Maka sesungguhnya sesudah kesulitan itu ada kemudahan, 6. Sesungguhnya sesudah kesulitan itu ada kemudahan. (*QS. Al-Insyirah: 5-6*)

لَقَدْ كَانَ لَكُمْ فِي رَسُولِ اللَّهِ أَسْوَةٌ حَسَنَةٌ لِمَنْ كَانَ يَرْجُو اللَّهَ وَالْيَوْمَ الْآخِرَ وَذَكَرَ اللَّهَ كَثِيرًا

“Sesungguhnya telah ada pada (diri) Rasulullah itu suri tauladan yang baik bagimu (yaitu) bagi orang yang mengharap (rahmat) Allah dan (kedatangan) hari kiamat dan dia banyak menyebut Allah” (*QS. Al-Ahzab: 21*)

“Ilmu pengetahuan itu bukanlah ilmu yang dihafal, melainkan yang memberi manfaat” (*Imam Syafi’i*)

“Menyia-nyiakan waktu lebih buruk dari kematian. Karena kematian memisahkanmu dari dunia sementara menyia-nyiakan waktu memisahkanmu dari Allah SWT” (*Imam bin Al Qayim*)

ACKNOWLEDGEMENTS

Alhamdulillahirabbil'alamin, upon *Ridho* and *Rahmat Allah Subhana Wa Ta'ala* this final assignment report with title “**Substructure of Sunda Strait**” 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, critism, and friendship. I am also very thankful to my co-supervisor Lisa, ST., M.Eng. 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. Rachmat Mudiyono, MT., 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.

Very special thanks are given to my beloved parent and my family for all support and my beloved girl N.Faridha Eka M. I also would like to thank to Harguna Jalu Winanda as my partner, for all that we have been through together. Thank to Andi Kurniawan Arifin, M. Irwan Nur Rachman and Risang Ardy Pradhana for their support, prayers, and cooperation during this study were always a blessing. Thank you to my college friends for their good cooperation during the studying in Engineering Faculty of UNISSULA 2017.

Semarang, February 2019

M. Taufiqul Hakim