



THESIS APPROVAL
GRADUATE SCHOOL, KASETSART UNIVERSITY

Doctor of Engineering (Civil Engineering)

DEGREE

Civil Engineering

FIELD

Civil Engineering

DEPARTMENT

TITLE: Effectiveness of Confining Reinforcement on Strength and Ductility of Reinforced Concrete Highway Bridge Piers

NAME: Mr. Sumnieng Ongsupankul

THIS THESIS HAS BEEN ACCEPTED BY

..... **THESIS ADVISOR**

(Professor Torkul Kanchanalai, Ph.D.)

..... **COMMITTEE MEMBER**

(Mr. Chaichan Suttikan, Ph.D.)

..... **COMMITTEE MEMBER**

(Associate Professor Trakool Aramraks, Ph.D.)

..... **DEPARTMENT HEAD**

(Associate Professor Warakorn Mairaing, Ph.D.)

APPROVED BY THE GRADUATE SCHOOL ON

..... **DEAN**

(Associate Professor Vinai Artkongharn, M.A.)