

4th International Conference on Civil Engineering Research (ICCER 2020)

IOP Conference Series: Materials Science and Engineering
Volume 930

Surabaya, Indonesia
22 - 23 July 2020

ISBN: 978-1-7138-4767-0
ISSN: 1757-8981

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution 3.0 International Licence.
Licence details: <http://creativecommons.org/licenses/by/3.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2022)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

PREFACE

Peer review declaration

Developing activities of green design, green purchasing, and green transportation as the part of green supply chain management in construction sector	1
<i>L B Setyaning, I P A Wiguna, F Rachmawati</i>	
Risks of Public Procurement for Construction Works.....	8
<i>A O F Dita, M A Rohman, C B Nurcahyo</i>	
A framework for mapping stakeholders interests related social sustainability in residential building	18
<i>F R Rivai, M A Rohman, Supani</i>	
A framework to assess success criteria performance of public private partnership (PPP) toll road projects in Indonesia.....	26
<i>F Kristiawan, M A Rohman, Machsus</i>	
A concept to evaluate procurement principles implementation of public construction project in Surabaya	35
<i>P V Sandi, M A Rohman, C Utomo</i>	
Work breakdown structure (WBS) dictionary and checklist development of stadium architectural and interior works for safety planning.....	45
<i>J T Amin, L Sagita, Y Latief</i>	
Development of dictionary and checklist based on Work Breakdown Structure (WBS) at seaport project construction for cost estimation planning.....	53
<i>A A Ilmi, L S R Supriadi, Y Latief, F Muslim</i>	
Critical factors that influence the success of construction projects procurement in Surabaya	63
<i>F A Safitri, M A Rohman, R Indryani</i>	
Identification of fire safety indicators for shopping centre buildings in Surabaya	73
<i>G F Marantika, M A Rohman, F Rachmawati, I P A Wiguna</i>	
A method to develop performance indicators based on performance criteria of Indonesian National Occupational Competency Standards (SKKNI) for construction safety technician competency	81
<i>A Okviana, Y Latief</i>	
4D BIM implementation to improve EPC project performance from contractor's perspective. A case study	92
<i>M Piselia</i>	
Implementation strategy of total quality management and quality culture to increase the competitiveness of contractor companies in Indonesia	100
<i>G Pinandhita, Y Latief</i>	
The role funding based non cash loan in the form of supply chain financing on elevated road project performance (case study join operation project PT.X)	110
<i>S A Stani</i>	

A Literature Review of Methods in Research on Green Building Cost Analysis.....	122
<i>R B Yasinta, C Utomo, Y Rahmawati</i>	
Research on real estate investment trust (REIT) as real estate financing for developers: a methodology review of previous study.....	129
<i>A F Sari, C Utomo, Y Rahmawati</i>	
Evaluation of the maturity level and critical success factors of the knowledge management implemented in state-owned construction company in Indonesia	136
<i>A W Septari, Y Latief</i>	
The ratio of changes in construction costs and development index of the standard analysis of construction costs for state buildings.....	146
<i>Yusroniya Eka Putri Rachman Waliulu</i>	
Weighting variables for building performance evaluation	154
<i>L N S Simbolon, I P A Wiguna, T J W Adi</i>	
Study of partnership form to improve idle land based on risk management	166
<i>B Y Prawiro</i>	
Adoption and implementation of building information modeling (BIM) by the government in the Indonesian construction industry.....	176
<i>M P Sopaheluwakan, T J W Adi</i>	
Analysis of the category of variation order in x project at XYZ ltd	186
<i>A A Suprpto, I P A Wiguna</i>	
Identifying factors affecting schedule and cost performance on building project	192
<i>E D Widowati, F Rachmawati</i>	
Risk allocation of PPP waste to energy projects in Indonesia: A research framework	201
<i>W P Utama, A Wibowo, D Y Jumas, E Rita, M Peli, Yulcherlina</i>	
The effect of m-sand and waste marble for strength of concrete.....	208
<i>R Hidayawanti, Yuhahah, D Mayasari, B Wicaksono</i>	
Compressive strength of geopolymer concrete with fly-ash from Paiton Steam Power Plant and variations of substitution sodium silicate (Na ₂ SiO ₃) with natural zeolite	215
<i>I N Amini, Krisnamurti, W T Wahyuningtyas</i>	
The effect of parsial granulated blast furnace slag (GBFS) substitution and ashes of the boiler crust of the palm oil shells on paving block	222
<i>T Yuhahah, R Hidayawanti, D Mayasari, B Wicaksono</i>	
The effect of curing in soil and compound on compressive strength of concrete quality fc' 25 MPa.....	228
<i>A Karjanto, B Djatmika, WH Yoh, PB Susanto</i>	
Factors that influence intention in processing organic waste using biopore hole.....	235
<i>A Mardiyani, C Utomo</i>	
Flood inundation numerical modelling due to dam break of Way Sekampung Dam	240
<i>Z. Nadida, U Lasminto</i>	
Structural Equation Model (SEM) between risk, safety control systems of risk, and OHS programs on OHS costs in rusunawa projects	246
<i>A S Harijanja, Y Latief</i>	

Updating the slope-movement data on the Batu-Kediri road network using digital information.....	253
<i>E Wahyudianto</i>	
Inspection and evaluation of bridge structures for earthquakes risk.....	260
<i>R Setiati</i>	
Preliminary 3D numerical pushover analysis of laterally loaded pile groups	271
<i>A Yuwono, W A Prakoso, Y Lase</i>	
Vs and CPT based evaluation of location with high liquefaction damage during 2018 Palu earthquake	280
<i>H A Rahmawati, W A Prakoso, A Rahayu</i>	
The comparison of empirical and finite element methods to evaluate soil foundation capacities for coastal dike	286
<i>Suyuti, Zulkarnain K. Misbah, Zhafirah M. Ardhana</i>	
Comparison of ultimate bearing capacity based on empirical method, interpretation of loading pile test and finite element.....	295
<i>Y Lastiasih, P T K Sari</i>	
Circular lining behaviour due to earthquake load in MRT Jakarta underground tunnel area CP-106.....	305
<i>F Muhammad, W A Prakoso</i>	
The stabilization of soft soil using admixture of palm oil boiler ash and MATOS	314
<i>M. A. Ma'ruf, Rusliansyah, F. I. D. Ritonga, B. Azizah</i>	
The effect of skirt footings for road settlement on peat soil	322
<i>D A W Gautama, B S Supanji, W Rahayu</i>	
Structural behavior of open truss FRP bridge without side support	332
<i>I Sidik, R Irawan</i>	
Analytical modeling of 3D-printed reinforced concrete beams.....	342
<i>J Chandra, P Pudjisuryadi, A Antoni, H Wibowo</i>	
Effect of reinforced concrete beam confinement under cyclic loading on ultimate drift ratio	349
<i>L S B Wibowo, M S D Cahyono</i>	
Determination of LRFD environmental load factor in the java sea for unbraced monopod structures using reliability analysis	357
<i>Paramashanti, D A Larasati</i>	
The effect of Street canyon width towards wind flow in between high-rise buildings.....	367
<i>Y Sanjaya, D Priambodo, P W Sarli, H D Setio</i>	
Review on 3D printed concrete as structural beam members.....	377
<i>P Pudjisuryadi, A Antoni, J Chandra</i>	
Rapid visual assessment of building vulnerability due to earthquake potential hazard in Surabaya.....	383
<i>D Irawan, B Suswanto, A R Amalia, D Iranata</i>	
3D Finite element modeling of circular reinforced concrete column confined with CFRP under different eccentric loads	393
<i>A B Christianto, B Piscesa, M M Attard, Faimun, P Aji</i>	

Connection system of precast beam and column with wet joint for short span bridge.....	402
<i>A Karjanto, Nindyawati, P B Susanto</i>	
A simplified method to estimate the fundamental frequency of simple span bridges supported on lead rubber bearing	409
<i>H Sugihardjo, A B Habieb</i>	
Analysis study of extended end plate connection due to cyclic load using finite element method	418
<i>Y S Yoganata, B Suswanto, D Iranata, D Irawan</i>	
The structural behavior of castellated beam with shape variation using finite element methods	428
<i>V W Yustisia, B Suswanto, D Irawan, D Iranata</i>	
Influence of link spacing on concrete shear capacity: experimental investigations and finite element studies.....	436
<i>W Don, K Chong, M Aitken, A Tambusay, B Suryanto, P Suprobo</i>	
Temperature dependence and activation energy of electrical conduction in an engineered cementitious composite	445
<i>B Suryanto, D Saraireh, A Tambusay</i>	
Effect of micro-cracking on the electrical and self-sensing properties of an engineered cementitious composite under tensile straining	453
<i>D Saraireh, B Suryanto, A Tambusay</i>	
Nonlinear finite element analysis of reinforced concrete beam-column joints under reversed cyclic loading.....	462
<i>A Tambusay, B Suryanto, P Suprobo</i>	
Experimental investigations on the durability performance of normal concrete and engineered cementitious composite	473
<i>I Komara, P Suprobo, D Iranata, A Tambusay, W Sutrisno</i>	
Numerical investigation of HSC column under axial and flexural loading using 3D-NLFEA	484
<i>P Pradnyanita, B Piscesa, M M Attard, Faimun, A K Samani</i>	
Effect of steel fiber volume fraction to the tensile splitting strength of concrete cylinder	495
<i>M Maksum, H Alrasyid, M Irmawan, B Piscesa</i>	
Railway capacity analysis using Indonesian method and UIC code 405 method.....	503
<i>H Widyastuti, W S Budhi</i>	
Intercity train dwell time estimation by using robust regression method: a study case on Surabaya-Yogyakarta line	513
<i>P Dewi, H Widyastuti</i>	
Design of the strong and durable of flexible pavement on road segment with the heavy traffic and overloads	526
<i>Sutoyo</i>	
Assessing the impact of the incorporation of aramid and polyolefin to hot and warm asphaltic mixture using dry and wet process: A Review	536
<i>G Daniel</i>	
Demand analysis at Tanah Grogot Airport East Kalimantan.....	550
<i>A B K Suharso, E Ahyudanari</i>	

Analysis the use of steel slag as a replacement of natural aggregate in the asphalt concrete binder course (AC-BC) mixture	560
<i>M Kasaf, C A Prastyanto</i>	
Development of risk-based standardized Work Breakdown Structure (WBS) to improve time performance on high-speed railway construction project	570
<i>D B Jati, Y Latief</i>	
Competition measures of TOD point to Central Business Districts in Surabaya using travel time approach (a case study: Joyoboyo Terminal)	579
<i>A A Zahra, E Ahyudanari</i>	
Valuing subjective cost of motorcyclists used willingness-to-pay in Surabaya	590
<i>H Widyastuti, A Utanaka</i>	
Student satisfaction with the performance of Surabaya school buses	599
<i>M C P Lincoln, H Widyastuti</i>	
Public transportation in Jabodetabek: performance satisfaction analysis	610
<i>E N Jannah, A N H Ibrahim, M N Borhan</i>	
The selection of the International Port Design Standards applicable for Indonesia	618
<i>I W Dyah, Fuddoly</i>	
2D numerical modeling of the Jeneberang River Flood due to the overflow of the Bili-Bili Dam	629
<i>Aslam, U Lasminto</i>	
Numerical rainfall-runoff model of Cimanuk Watershed before and after the operation of Jatigede Reservoir	640
<i>R M Widayati, U Lasminto</i>	
Diversion canal to decrease flooding at Kemuning river, Sampang district.....	650
<i>G Idfi, T Rahayuningsih, N Suryoputro</i>	
The real operational cost for managing Semarang river polder drainage system	657
<i>F Hartawan, S I Wahyudi</i>	
The comparative study of peak discharge at Ngotok watershed by using the method of SCS, Snyder and Nakayasu for flood control needs	665
<i>G Idfi, A Yulistyorini, N Suryoputro</i>	
Numerical simulation of the water level of the channel and the Kalidami boezem by pump operation.....	673
<i>B Setiawan, U Lasminto</i>	
The benefits of river normalization of Guntur weir upstream to irrigation area service in Demak Regency Central Java Indonesia.....	684
<i>A Y Imawan, S I Wahyudi, N R Wahyudi</i>	
Hydrological analysis of moveable weir planning for tidal flood handling in Cilacap, Central Java.....	693
<i>M Taufiq, H P Adi, S I Wahyudi</i>	
Analysis of water surface profile and flood discharge of Cijangkelok river	701
<i>A W P Sjarief, U Lasminto</i>	

The flood prediction model using Artificial Neural Network (ANN) and weather Application Programming Interface (API) as an alternative effort to flood mitigation in the Jenelata Sub-watershed.....	710
<i>O M Gessang, U Lasminto</i>	
The analysis of water balanced in Bendo Reservoir using Dynamic System	721
<i>N F Margini, N Anwar, W Wardoyo</i>	
Numerical modeling of sub-surface drainage systems in Citraland, West Surabaya.....	731
<i>S Dwiuntoroadi, U Lasminto</i>	

Author Index