

SURAT KETERANGAN
MELAKUKAN KEGIATAN PENGABDIAN KEPADA MASYARAKAT
INSTITUT TEKNOLOGI NASIONAL
No. 394/C.02.01/LPPM/VII/2021

Yang bertanda tangan di bawah ini,

Nama : Iwan Juwana, S.T., M.EM., Ph.D.
Jabatan : Kepala
Unit Kerja : LPPM-Itenas
JL. P.K.H. Mustafa No.23 Bandung

Menerangkan bahwa,

No.	Nama	NPP	Jabatan
1	Dr.techn. Indra Noer Hamdhan, S.T., M.T.	20030105	Tenaga Ahli
2	Dr. Ir. Imam Aschuri, M.T.	940102	Tenaga Ahli
3	Ikhya, S.T., M.T., M.M.	20020107	Tenaga Ahli
4	Dr. Yuki Achmad Yakin, S.T., M.T.	20140601	Tenaga Ahli
5	Desti Santi Pratiwi, S.T., M.T.	20190804	Tenaga Ahli
6	Badriana Nuranita, S.T., M.T.	20200201	Tenaga Ahli
7	Euneke Widyaningsih, S.T., M.T.	20190803	Tenaga Ahli
8	Rinaldy, S.T.	-	Tenaga Ahli

Telah melakukan kegiatan Pengabdian kepada Masyarakat sebagai berikut:

Nama Kegiatan : NGC Plaxis Training Series #3 Plaxis 2D Training
Tempat : Webinar/Video Conference
Waktu : 09 - 11 Juni 2021
Sumber Dana : RKAT Prodi Teknik Sipil Tahun 2021

Demikian surat keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Bandung, 02 Juli 2021

Lembaga Penelitian dan Pengabdian
kepada Masyarakat (LPPM) Itenas
Kepala,

Iwan Juwana, S.T., M.EM., Ph.D.
NPP. 20010601

LAPORAN KEGIATAN PENGABDIAN KEPADA MASYARAKAT



NGC PLAXIS TRAINING SERIES #3 PLAXIS 2D TRAINING

Ketua Tim :

Dr. techn. Indra Noer Hamdhan, ST., MT.

Anggota Tim :

**Ikhya, ST., MT., M.M.
Imam Aschuri, Ph. D.
Dr. Yuki Achmad Yakin, ST., MT.
Desti Santi Pratiwi, ST., MT.
Badriana Nuranita, ST., MT.
Euneke Widyaningsih, ST., MT.
Rinaldy Alamsyah, ST.**

**Program Studi Teknik Sipil
Fakultas Teknik Sipil dan Perencanaan
Institut Teknologi Nasional
Bandung**

2021

HALAMAN PENGESAHAN

Judul : NGC Plaxis Training Series #3: Plaxis 2D Training

Ketua Tim Pengusul

Nama : Dr. techn. Indra Noer Hamdhan

NIP : 11785

Jabatan/Golongan : Lektor / IIID

Jurusan/Fakultas : Teknik Sipil / Fakultas Teknik Sipil dan Perencanaan

Bidang Keahlian : Rekayasa Geoteknik

Alamat Kantor : Jl. PHH Mustofa No. 23 Bandung

Lokasi Kegiatan

Wilayah Mitra : Provinsi Jawa Barat

Desa/Kecamatan : -

Kota/Kabupaten : Kota Bandung

Provinsi : Jawa Barat

Jarak PT ke Mitra : -

Luaran : -

Waktu Pelaksanaan : 9-11 Juni 2021

Total Biaya : Rp10.000.000,00

Bandung, Juni 2021

Ketua Tim Pengusul



(Dr. techn. Indra Noer Hamdhan)

Mengetahui,
Dekan Fakultas



itenas
F T S P

(Dr. Soni Darmawan)

Disahkan Oleh
Ketua LP2M,

Iwan Juwana, S.T., M.EM., Ph.D.
NIP: 20010601

LAPORAN KEGIATAN

Tujuan

Tujuan dari kegiatan NGC Plaxis Training Series #3 : Plaxis 2D Training ini adalah untuk memberikan wawasan, pengetahuan, praktik, serta wadah diskusi kepada para peserta baik yang berasal dari akademisi maupun praktisi yang bergerak di bidang geoteknik serta membutuhkan *upgrading* keahlian dan pengetahuan terkait *Excavation and Dewatering Slope Stability, Dam dan Ground Improvement* melalui perangkat lunak PLAXIS 2D.

Deskripsi Kegiatan

Kegiatan ini dilaksanakan selama 3 hari, yakni pada 9-11 Juni 2021 selama 4 (empat) jam setiap hari-nya, dari pukul 16.00 – 20.00 WIB. Lokasi pelaksanaan kegiatan ini dilaksanakan melalui pertemuan *online* (tatap maya) via aplikasi Zoom. Jumlah peserta yang mengikuti pelatihan ini yaitu sebanyak 50 peserta yang tercatat pada formulir pendaftaran maupun daftar hadir setiap harinya yang disampaikan melalui *Google form*. Adapun peserta yang mengikuti pelatihan ini berasal dari berbagai institusi, seperti Institut Teknologi Nasional Bandung, Universitas Gadjah Mada, Institut Teknologi Bandung, Institut Teknologi Sumatera, Universitas Atma Jaya Yogyakarta, Universitas Katolik parahyangan, Universitas Syiah Kuala, Universitas Kristen Petra, dan berbagai konsultan geoteknik swasta, BUMN, maupun institusi pemerintahan.

Materi-materi yang disampaikan pada kegiatan pelatihan ini adalah sebagai berikut (jadwal pelaksanaan terlampir):

- Introduction to finite element modeling
- Plasticity Mohr-Coulomb and hardening soil model
- Structural elements in Plaxis
- Initial stresses
- Footing on elasto-plastic soil
- Modeling of deep excavation
- Modeling groundwater
- Safety Factor in PLAXIS
- Excavation of building pit (HS)
- Excavation and Dewatering
- Modeling of undrained behaviour and consolidation
- Modeling of ground improvement
- Groundwater Flow Analysis in Dams
- Slope Stability for a Road Construction Project
- Modeling of embankment improved with PVD

Para peserta yang mengikuti pelatihan ini mendapatkan Modul Pelatihan dan sertifikat resmi dari *Bentley Institute*.

BUKTI KEGIATAN

Poster Pelatihan



NGC PLAXIS TRAINING SERIES #3

PLAXIS 2D TRAINING

Excavation and Dewatering, Slope Stability, Dam and Ground Improvement



RABU-JUMAT
9 - 11.06.2021
16.00 - 20.00 WIB
Bentley e-certificate



Dr.techn. Indra Noer Hamdhan
Lecturer of Civil Engineering
Department, Itenas



Dr. Yuki Achmad Yakin
Lecturer of Civil Engineering
Department, Itenas



Imam Aschuri, Ph.D.
Lecturer of Civil Engineering
Department, Itenas



Ikhya, S.T., M.T., M.M.
Lecturer of Civil Engineering
Department, Itenas



Desti Santi Pratiwi, S.T., M.T.
Lecturer of Civil Engineering
Department, Itenas



Rinaldi Alamsyah, S.T.
Assistant Lecturer of Civil Engineering
Department, Itenas

Registrasian fee:
200k for academic
300k for professional

Registrasian Link:
bit.ly/PlaxisTrainingSeries3
limited seat (only 40 seats)

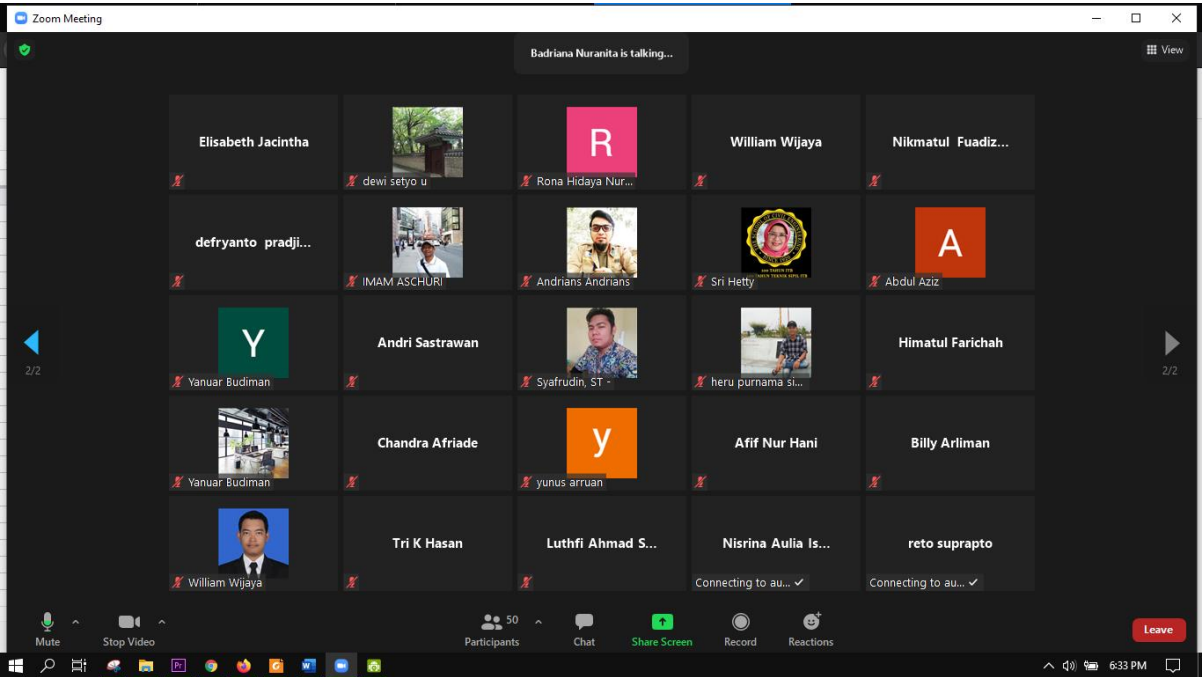
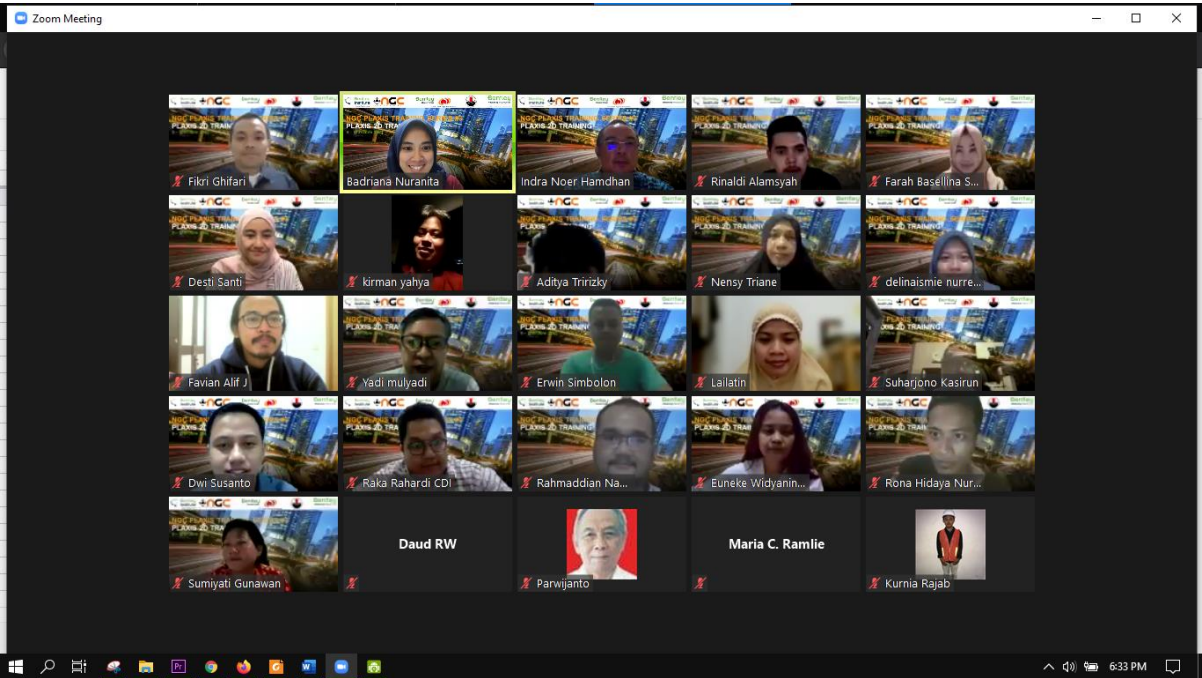
Contact Person:
Badriana Nuranita, S.T., M.T.
+62 878-2492-3022

supported by:

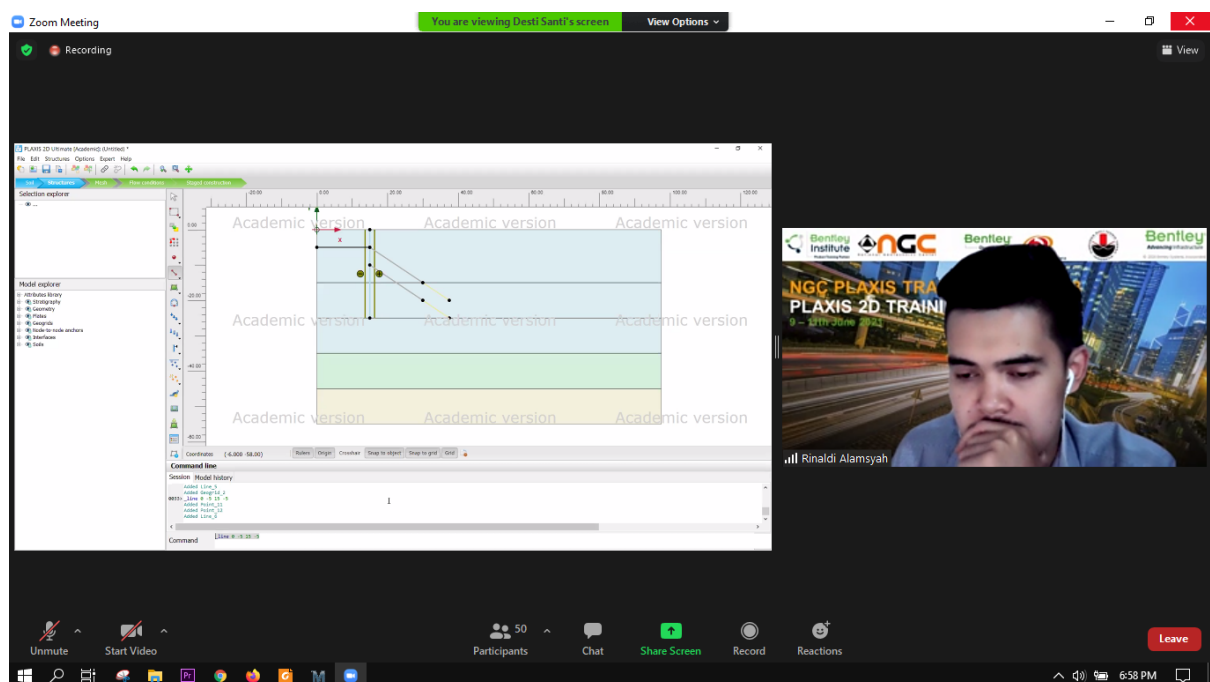
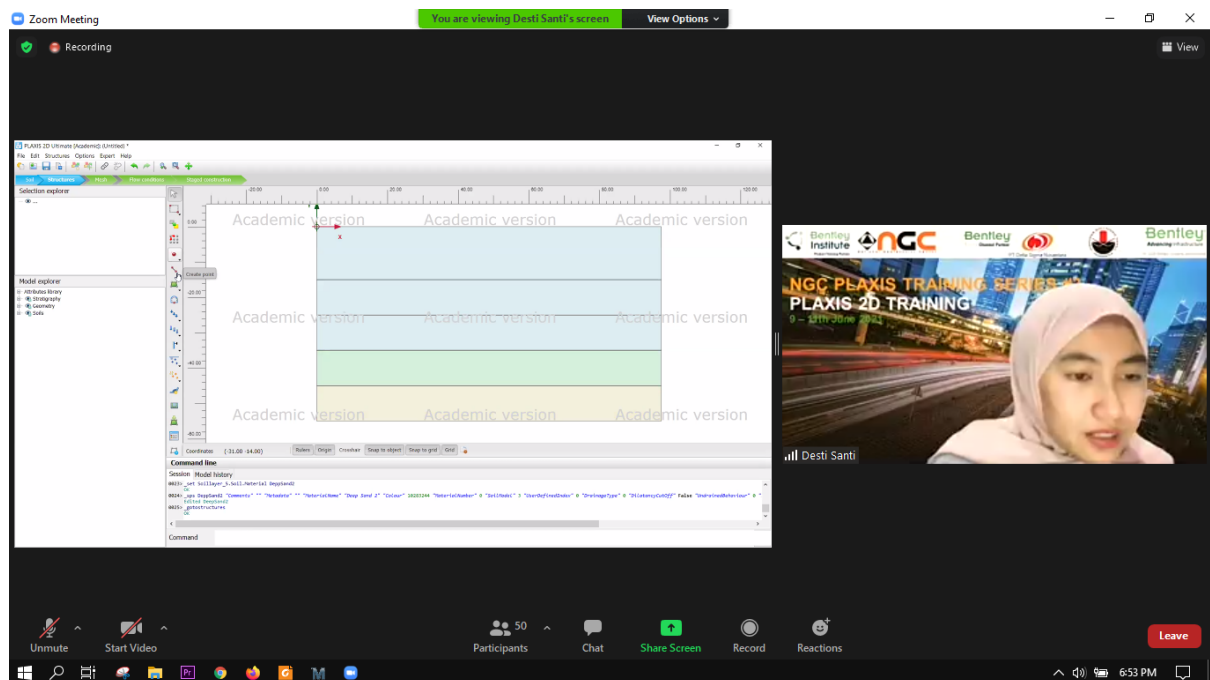
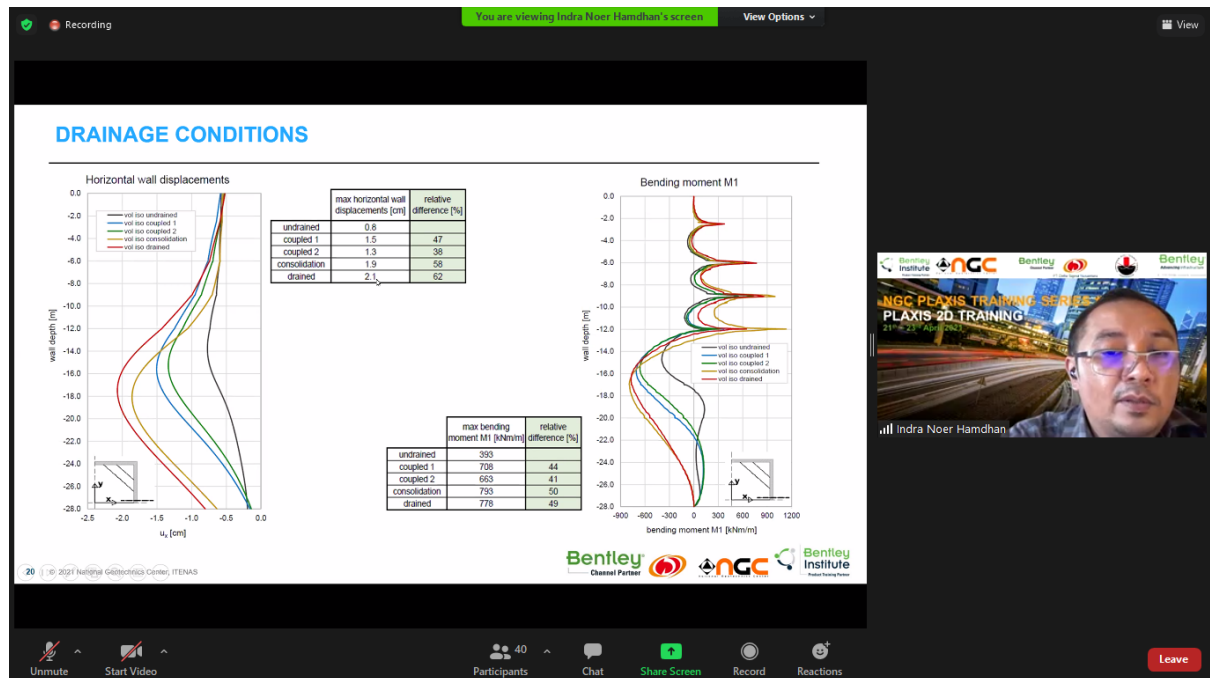


[itenas.ac.id](https://www.itenas.ac.id) [@itenas.official](https://www.instagram.com/itenas.official) [Institut Teknologi Nasional Bandung](https://www.facebook.com/InstitutTeknologiNasionalBandung) humas@itenas.ac.id

Dokumentasi Hari Pertama Kegiatan



Dokumentasi Hari Kedua Kegiatan



Dokumentasi Hari Ketiga Kegiatan

Zoom Meeting
You are viewing Ikhya - Teknik Sipil's screen
View Options

Recording
View

PORE PRESSURE PARAMETERS A AND B

Assuming triaxial compression:

$$\Delta\sigma_1; \Delta\sigma_2 = \Delta\sigma_3$$

$$\Delta p_w = \frac{\Delta\sigma_1 + 2\Delta\sigma_3 - 3\Delta p_w}{3K'} \cdot \frac{K_w}{n}$$

leading to

$$\Delta p_w = \frac{1}{1 + \frac{nK'}{K_w}} \left[\Delta\sigma_3 + \frac{1}{3}(\Delta\sigma_1 - \Delta\sigma_3) \right]$$

$$\Delta p_w = B \left[\Delta\sigma_3 + A(\Delta\sigma_1 - \Delta\sigma_3) \right]$$

with

$$B = \frac{1}{1 + \frac{nK'}{K_w}} \quad A = \frac{1}{3}$$

5 | © 2021 National Geotechnical Center, ITENAS

Unmute
Start Video

Participants 35
Chat
Share Screen
Record
Reactions

Leave

Windows taskbar icons
4:15 PM

The image is a composite of three elements:

- Top Left:** A screenshot of a MATLAB/Simulink workspace. The main window displays two plots. The left plot shows a signal (magenta line) with a sharp drop and recovery, overlaid with a fitted curve (blue line). The right plot shows a similar signal (magenta line) with a fitted curve (blue line). The workspace includes a Command Window, a Variable Editor, and a Command History window.
- Top Right:** A video call window showing a man with dark hair and a mustache, wearing a white shirt. He is identified as Rinaldi Alamsyah. The video call interface includes logos for NGCT and Bentley.
- Bottom:** A banner for NGCT (National Graduate Certificate in Technology) and Bentley. The banner features the text "NGCT National Graduate Certificate in Technology" and "Bentley" with a logo. Below the text, there is a list of topics: "1. Introduction to MATLAB/Simulink", "2. MATLAB/Simulink for Engineers", "3. MATLAB/Simulink for Scientists", "4. MATLAB/Simulink for Business", "5. MATLAB/Simulink for Finance", "6. MATLAB/Simulink for Healthcare", "7. MATLAB/Simulink for Manufacturing", "8. MATLAB/Simulink for Aerospace", "9. MATLAB/Simulink for Automotive", "10. MATLAB/Simulink for Energy".

DAFTAR PESERTA PELATIHAN

FirstName	LastName	EmailAddress	Company/University/InstituteName	UserCountry	UserType (Academic/Commercial/Self-Employed)
<Firstname>	<Lastname>	<emailaddress>	<AccountName>	<Country>	<UserType>
Abdul	Aziz	aampro.engineer2@gmail.com	Modern Widya Tehnical	Indonesia	Commercial
Aditya Tri	Rizky	adityatrirzky98@gmail.com	Universitas Bung Hatta	Indonesia	Academic
Afif Nur	Hani	afif.21116139@student.itera.ac.id	Institut Teknologi Sumatera	Indonesia	Academic
Andre	Wijaya	andre.2015ts022@civitas.ukrida.ac.id	Universitas Kristen Krida Wacana	Indonesia	Academic
Andri	Sastrawan	andriprabu200769@gmail.com	Universitas Tompotika Luwuk	Indonesia	Academic
Andrians	Andrians	Andrians.civileng@gmail.com	PT. Wijaya Karya (Persero), Tbk.	Indonesia	Commercial
Angga	Herdiana	angga.herdiana@atrya.co.id	PT. Atrya Swascipta Rekayasa	Indonesia	Commercial
Badriana	Nuranita	nuranitaana@gmail.com	Institut Teknologi Nasional Bandung	Indonesia	Academic
Billy	Arliman	billyarliman@gmail.com	PT. Yureka Hasta Pratisthana	Indonesia	Commercial
Budi	Santoso	mhilmyk@gmail.com	PT. Pratama Daya Cahya Manunggal	Indonesia	Commercial
Chandra	Afriade	chandra.afriade18@gmail.com	Universitas Sangga Buana YPKP	Indonesia	Academic
Daud Rahmat	Wiyono	hwiesiong@gmail.com	Universitas Kristen Maranatha	Indonesia	Academic
Defryanto	Pradjito	defryanto.pradjito@gmail.com	Universitas Trisakti	Indonesia	Commercial
Delinaismie	Nurrensyah	delinaismienurrensyah@gmail.com	Institut Teknologi Nasional Bandung	Indonesia	Academic
Desti Santi	Pratiwi	destisantipratiwi@gmail.com	Institut Teknologi Nasional Bandung	Indonesia	Academic
Dewi Setyo	Utami	ds_oetamie@yahoo.com	PT. Utama Karya	Indonesia	Academic
Dwi	Susanto	ds_santo.dwi.s@gmail.com	PT. Wijaya Karya (Persero), Tbk.	Indonesia	Commercial
Elisabeth	Jacintha	alice.jacintha@gmail.com	PT Meinhardt Indonesia	Indonesia	Commercial
Erwin	Simbolon	erwin.s@wikamail.id	PT. Wijaya Karya (Persero), Tbk.	Indonesia	Commercial
Euneke	Widyaningsih	eunekewidya@gmail.com	Institut Teknologi Nasional Bandung	Indonesia	Academic
Farah Basellina	Safira	fbasellinas@gmail.com	Institut Teknologi Bandung	Indonesia	Academic
Favian Alif Nur	Javier	faviananjavier@gmail.com	Institut Teknologi Nasional Bandung	Indonesia	Academic
Fikri	Ghifari	hda.geotek@gmail.com	Institut Teknologi Sepuluh November	Indonesia	Academic
Gita Kenny	Saharani	gita.kenny@atrya.co.id	PT. Atrya Swascipta Rekayasa	Indonesia	Commercial
Gogot Setyo	Budi	gogot@petra.ac.id	Universitas Kristen Petra	Indonesia	Academic
Handika R.	Putra	handikarputra@gmail.com	PT. Pembangunan Perumahan (Persero) T	Indonesia	Commercial
Heru Purnama	Sidiq	herupurnamasidiq@gmail.com	PT. Endah Bangun Nagara Consultant	Indonesia	Commercial
Himatul	Farichah	himatulf93@gmail.com	UPNVJT	Indonesia	Academic
Ir. Yunus	Arruan	yunusarruan91@gmail.com	PT. Wesitan Konsultasi Pembangunan	Indonesia	Academic
Kevin	Raenaldo	k.raenaldo@gmail.com	PT. Pratama Daya Cahya Manunggal	Indonesia	Commercial
Kirman	Yahya	kirmany2020@gmail.com	Universitas Katolik Parahyangan	Indonesia	Academic
Lailatin	Lailatin	lailatin@ptpp.co.id	PT. Pembangunan Perumahan (Persero) T	Indonesia	Commercial
Luthfi Ahmad	Sabili	luthfiahmadsabili26@gmail.com	Institut Teknologi Nasional Bandung	Indonesia	Academic
Maria Carmelia	Ramlie	mariaramlie@gmail.com	University of Pavia	Indonesia	Academic
Muhamad Kurnia	Rajab	rajab.kurnia117@gmail.com	PT. Endah Bangun Nagara Consultant	Indonesia	Commercial
Nensy	Triane	nensytriane@gmail.com	Konsultan Perencana	Indonesia	Commercial
Nikmatul Fuadiz	Zikri	nikmatulfuadizzikri@yahoo.co.id	Universitas Gadjah Mada	Indonesia	Academic
Nisrina Aulia	Is Marsa	nismarsa@gmail.com	Institut Teknologi Bandung	Indonesia	Academic
Parwijanto	-	parwijanto@gmail.com	PT. Serene Techno Bakti	Indonesia	Commercial
Rahmaddian	Perdana	rahmaddian.perdana@atrya.co.id	PT. Atrya Swascipta Rekayasa	Indonesia	Commercial
Raka Rahardi	Wiranatanegara	rakarahardi@hotmail.com	PT. Cipta Desain Indonesia	Indonesia	Commercial
Resti Dwi	Apriliani	restiaprilia34@gmail.com	Unjani	Indonesia	Academic
Reto Suprpto	Pratama ST., MT	reto.suprpto@gmail.com	PT. LAPI GTC	Indonesia	Commercial
Rinaldi	Azmi	rinaldi.azmi@gmail.com	CV. DIMIANO Konsultan	Indonesia	Commercial
Rinaldi	Alamsyah	Alamsyahrinaldi@gmail.com	Institut Teknologi Nasional Bandung	Indonesia	Academic
Rona	Hidaya Nurashar	ronahidaya95@gmail.com	Universitas Majalengka	Indonesia	Academic
Suharjono	Kasirun	suharjono.kasirun@gmail.com	Konsultan Perencana Independen	Indonesia	Commercial
Sumiyati	Gunawan	sumiyatig07@gmail.com	Universitas Atma Jaya Yogyakarta	Indonesia	Academic
Tri Kumala	Hasan	trikumalahasan313@gmail.com	PT. Pembangunan Perumahan (Persero) T	Indonesia	Commercial
Usman	Hasan	usmanlianghasan@gmail.com	Swasta	Indonesia	Commercial
William	Wijaya	william.wijaya@uajy.ac.id	Universitas Atma Jaya Yogyakarta	Indonesia	Academic
Yadi	Mulyadi	yadi95@gmail.com	PT. Yodya Karya	Indonesia	Commercial
Yanuar	Budiman	yanuar@wikamail.id	PT. Wijaya Karya (Persero), Tbk.	Indonesia	Commercial
Yeyet	Hudayat	hudayatyeyet@gmail.com	Konsultan	Indonesia	Commercial
Yunalis	Hasan	yna.mhasan@gmail.com	Universitas Syiah Kuala	Indonesia	Academic

LAMPIRAN BUKTI SERTIFIKAT PELATIHAN



**Bentley[®]
Institute**

Certificate of Accomplishment

THIS CERTIFICATE IS PRESENTED TO

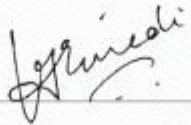
Badriana Nuranita

upon successful completion of
Plaxis 2D Training | EN

Product: PLAXIS 2D Version: CONNECT Edition

Course Date: June 9, 2021 - June 11, 2021 Learning Units: 12

Training Partner: NATIONAL GEOTECHNICS CENTER ITENAS



Vinayak Trivedi
Global Head, Bentley Institute
Bentley Systems Inc.

Certificate ID: 2083398018



Bentley[®]
Advancing infrastructure

LAMPIRAN JADWAL KEGIATAN
RUNDOWN NGC PLAXIS TRAINING SERIES #3
PLAXIS 2D TRAINING
9th – 11th Juni 2021

DAY 1

No	Name	Session Time (hh:mm)	Total Time (hh:mm)	Name	Type
1	IM	16:00 - 16:45	00:45	Introduction to Finite Element Modelling	Lecture
2	YK	16:45 - 17:45	01:00	Plasticity Mohr-Coulomb & Hardening soil model	Lecture
3	INH	17:45 - 18:30	00:45	Structural Elements In Plaxis	Lecture
4		18:30 - 19:00	00:30	Isoma maghrib	
5	INH	19:00 - 19:15	00:15	Initial stresses	Lecture
6	RA & DSP	19:15 - 20:15	01:00	Footing on elasto-plastic soil	Exercise

DAY 2

No	Name	Session Time (hh:mm)	Total Time (hh:mm)	Name	Type
7	INH	16:00 - 16:45	00:45	Modelling of deep excavation	Lecture
8	INH	16:45 - 17:30	00:45	Modelling groundwater	Lecture
9	DSP	17:30 - 18:00	00:30	Safety Factor in PLAXIS	Lecture
10		18:00 - 18:30	00:30	Isoma maghrib	
11	RA & DSP	18:30 - 19:30	01:00	Excavation of building pit (HS)	Exercise
12	RA & DSP	19:30 - 20:30	01:00	Excavation and Dewatering	Exercise

DAY 3

No	Name	Session Time (hh:mm)	Total Time (hh:mm)	Name	Type
13	IK	16:00 - 16:45	00:45	Modelling of Undrained Behaviour and Consolidation	Lecture
14	IK	16:45 - 17:15	00:30	Modelling of ground improvement	Lecture
15	RA & DSP	17:15 - 18:15	01:00	Groundwater Flow Analysis in Dams	Exercise
16		18:15 - 18:45	00:30	Isoma maghrib	
17	RA & DSP	18:45 - 19:45	01:00	Slope Stability for a Road Construction Project	Exercise
18	RA & DSP	19:45 - 20:45	01:00	Modelling of Embankment Improved with PVD	Exercise

LAMPIRAN MATERI PELATIHAN