

A modern glass skyscraper with a curved facade, reflecting the sky and surrounding buildings. The building is set against a blue background with geometric shapes.

MITRA INTI BANGKIT UNDAGI

*Decoding Complexity,
Engineering Clarity:
Your Trust, Our Commitment*

MIBU 



ABOUT US

At PT Mitra Inti Bangkit Undagi (MIBU), we specialize in unraveling complex challenges through precise engineering analysis. We dedicate ourselves to decoding intricacies, providing innovative solutions that stand at the intersection of accuracy and engineering excellence. Your trust in our expertise is the driving force behind our commitment to delivering accurate and conclusive engineering solutions.

Join Us on the Journey: Whether you're facing a complex engineering challenge or seeking expert analysis, PT MIBU is ready to be your trusted partner. Together, let's unlock the solutions that will shape the future.

OUR CORE VALUES

C

Collaborative: Emphasizing the importance of teamwork and collaboration both within the firm and with clients, ensuring the combined expertise creates superior outcomes.

O

Objective: Conducting engineering analyses and assessments with objectivity, basing conclusions on factual evidence rather than personal bias.

R

Resilience: Demonstrating resilience in the face of challenges, adapting to changes, and persevering to achieve successful projects with up-to-date standards.

E

Expertise: Demonstrating specialized knowledge and proficiency in various aspects of civil engineering, ensuring a high level of technical competence.



PT MITRA INTI BANGKIT UNDAGI

Established in 2019, our company has been delivering high-quality engineering services. With our team of experienced and skilled engineers, we have successfully completed numerous projects, ranging from small-scale developments to large infrastructure projects.

200+ PROJECTS

10+ CERTIFIED EXPERTS

- Sertifikat Tenaga Ahli Penyusun ANDALALIN
- Sertifikat Kompetensi Kerja (SKK) Gedung
- Sertifikat Kompetensi Kerja (SKK) Geoteknik
- Sertifikat Kompetensi Kerja (SKK) Hidrologi

COMPANY VISION & MISSION

We aim to simplify the most intricate challenges, providing unparalleled clarity in civil engineering solutions, and earning and preserving your trust through unwavering commitment and expertise.



Comprehensive Services

From structural-soil-traffic impact analysis to expert witness testimony, we offer a wide range of civil engineering services, addressing the diverse needs of our clients.



Innovation

Our commitment to innovation drives us to explore new solutions, pushing the boundaries of what's possible in engineering analysis.



Client-Centric Approach

Your goals are our priority. We aim to provide clear and concise insights into your unique needs, guiding you through the complexities with transparent communication and thorough reporting.

OUR CLIENTS

In addition to education and certifications, practical experience is essential to becoming a successful civil engineering consultant. PT MIBU has managed numerous projects nationally, both within and outside of JaBoDeTaBek, ranging from residential areas to factories to commercial areas. We had worked with different clients, including government agencies, private developers, and other stakeholders.

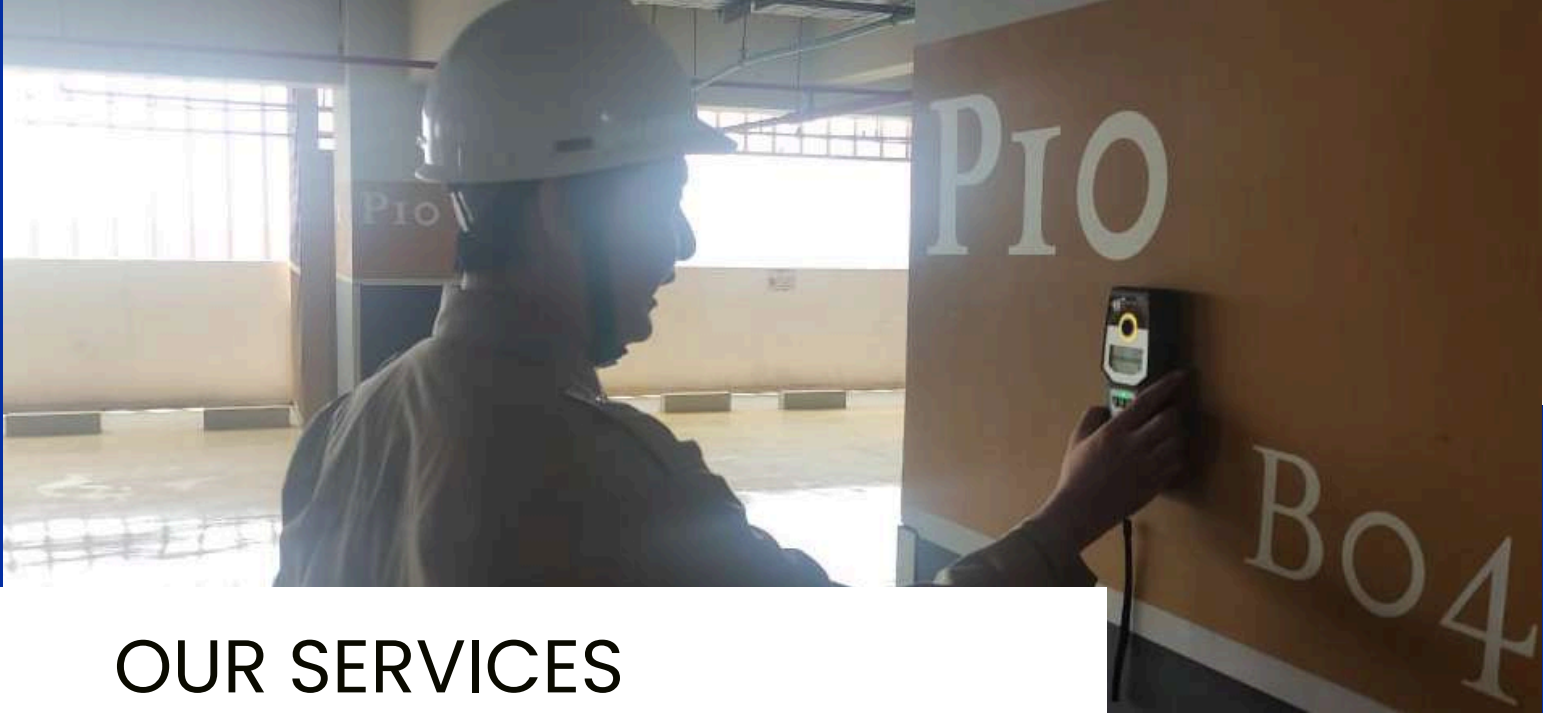


OUR PROJECT REFERENCES

- PT Jakarta Industrial Estate Pulogadung
- Ratansha Sumedang
- Rumah Sakit Latersia Binjai
- Fresh Market PIK
- Gladiresik Music Lab - SSOM Studio
- Central Motor Wheel Karawang
- Pink and Yellow Road BSD
- Gedung Antara
- Pasar Cipete Utara
- Frenchwalk Apartment
- Residence and Office Senopati 8
- Masjid Persis Bandung
- Ivan's Motor Showroom
- Lippo Insurance Building
- HMSP Sukorejo
- HMSP Karawang
- Silo CBS Marunda
- Tutong Pool
- PJB Gresik
- Mal Ciputra Jakarta
- TMG Hotel Tebet
- RSPAD Jakarta
- Kos Modern Kramat Senen
- Harrisma Tower
- Borsummy Heritage
- Connecticut Bridge
- Episode Hotel Tangerang
- Summit Solar Tech Factory
- Win Premiere
- PUSBATARA
- Dermaga Bali
- SSP Plant 1 and Plant 2
- Icon+ Depok
- LPI Pengelolaan Sampah
- Jetty Tanjung Wangi
- Argopantes Tangerang
- Rumah Sakit Jakarta
- Futaba Industrial Indonesia
- Namicoh Indonesia Component
- Shiroki Indonesia
- Hanggar Halim



- | | | | | |
|----------------------|-------------------|----------------------|------------|-------------|
| 📍 Connecticut, U.S.A | 📍 Bangka Belitung | 📍 Depok | 📍 Lampung | 📍 Serang |
| 📍 Brunei Darussalam | 📍 Batang | 📍 DKI Jakarta | 📍 Magelang | 📍 Semarang |
| 📍 Bali | 📍 Bekasi | 📍 Gresik | 📍 Nganjuk | 📍 Sumedang |
| 📍 Banyuwangi | 📍 Binjai | 📍 Kalimantan Selatan | 📍 Pasuruan | 📍 Sukorejo |
| 📍 Bandung | 📍 Bogor | 📍 Karawang | 📍 Sadang | 📍 Surabaya |
| | | | | 📍 Tangerang |



OUR SERVICES

STRUCTURAL AUDIT

A structural audit is a comprehensive check of building safety by analyzing and suggesting appropriate repairs and retrofitting measures required for the building to perform better in its service life.

Over time, there are many reasons that can weaken the structures, and the most common of them are structural deficiency, material deterioration, unexpected overloads, and physical damage due to accidents. A structural audit is an effective way of identifying defects and assessing the current condition of the structure. The general advice is to conduct structural audits every 5 years and every 3 years for structures older than 30 years. This includes not only building structures (such as public, commercial, residential, and industrial buildings), but also non-building structures (such as bridges, jetties, silo tanks, and retaining walls).



Our structural audit typically covers:

- Forensic or damage analysis
- Plan and alignment between the as-built drawing and the existing condition
- Seismic evaluation
- Evaluation of the structure per current code requirements and/or at the time of construction
- Non-destructive testing, as needed (ultrasonic pulse velocity tests, hammer tests, rebar scanning tests, steel thickness measurements, corrosion measurements)
- Destructive testing, as needed, with assistance from third-party testing agencies (concrete strength through core sampling, steel strength, masonry strength, etc.)
- Identifying and recommending parts or sections of the structure that may be in need of immediate repair, renovation, and/or replacement
- Expert witness services, as needed

OUR SERVICES

STRUCTURAL AUDIT

- SNI 1726-2019 - Pembebanan Gempa Struktur Gedung dan Non-gedung
- SNI 1727-2020 - Pembebanan untuk Struktur Gedung
- SNI 8460-2017 - Perancangan Geoteknik
- SNI 2847-2019 - Analisis Penampang Beton
- SNI 1729-2020 - Analisis Penampang Baja

1

Document Review

Inspection planning, Information related to structures, Checking existing drawings and documents

2

Visual Inspection

Obtain data and information regarding conditions in the existing structures

3

Structural Testing

1. Non-Destructive Test
2. Destructive Test
3. Soil Investigation

4

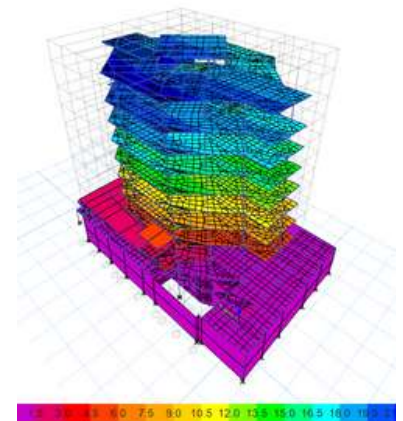
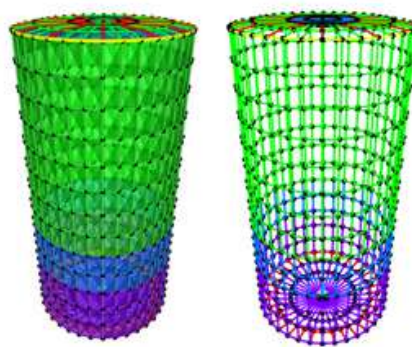
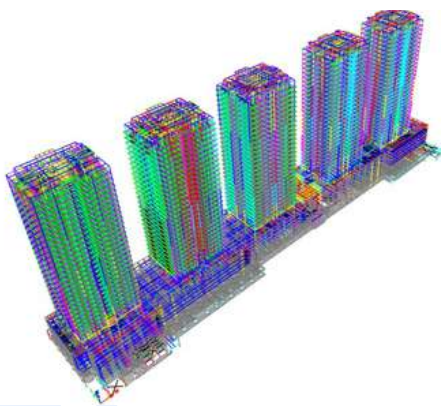
3D Analysis

Comparison of literature standards, initial design conditions with existing conditions

5

Recommendation

Recommendations for repairs, volume estimates and repair costs



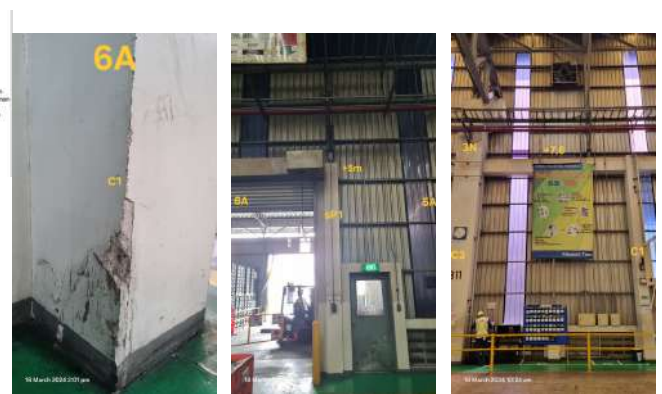
VISUAL INSPECTION

A visual inspection is carried out on each structural element and its environmental conditions, intended to obtain data and information regarding existing conditions in the field. From these results, an idea of the types of damage in the structure as well as estimates of the causal factors can be analyzed. Visual inspection is carried out by using the sense of sight to examine structural elements in accessible access areas, then each type of damage and location of damage will be documented.

Visual inspection determines the type, level of damage, quantity of damage and the cause of damage to structural elements, as well as the comparison of the building with as-built drawings. The output of this detailed visual inspection is the actual condition of each structural element.



No	Kode	Tipe Struktur	Deskripsi Kerusakan	Estimasi Area Kerusakan (m)		
				P	l	t
1	DF 1	Tie Beam	Spalling & Korosi	0.8	0.35	0.015
2	DF 2	Pelat Lantai Dasar	Spalling & Korosi	0.85	0.14	0.01
3	DF 3	Retaining Wall	Spalling & Korosi	0.23	0.14	0.015
4	DF 4	Tie Beam	Spalling & Korosi	0.47	0.05	0.005
5	DF 5	Retaining Wall	Spalling & Korosi	0.35	0.12	0.01
6	DF 5	Retaining Wall	Spalling & Korosi	0.98	0.1	0.06
7	DF 6	Retaining Wall	Spalling & Korosi	0.73	0.33	0.01



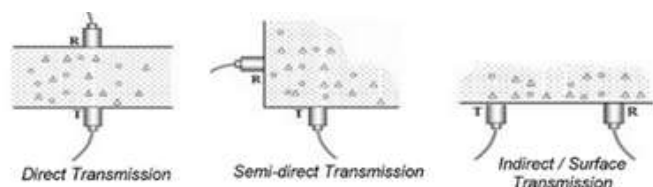
ULTRASONIC PULSE VELOCITY TEST

The test method is carried out using the PUNDIT (Ultrasonic Pulse Velocity Portable Unit Non Destructive Indicator Test) tool, which was developed based on the principle that the speed of wave propagation through a solid medium depends on the elastic properties of the medium.

- BS EN 12504 (Part 4)
- IS 13311 (Part-1)
- ASTM C597-16
- ASTM C215

Equipment used:

UPV PUNDIT, Grinder, Calibration Media, Ultrasonic gel/grease, Meter, Wire Brush.



	Pulse Velocity (m/s)	Concrete Conditions
Concrete Quality	> 4500	Excelent (Sangat Baik)
	3500 - 4500	Good (Baik)
	3000 - 3500	Medium (Sedang)
	< 3000	Doubtful (Buruk)

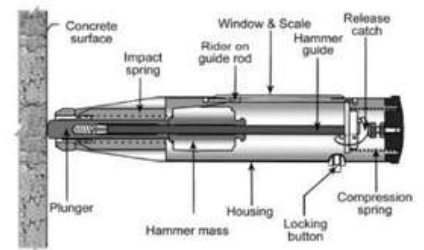
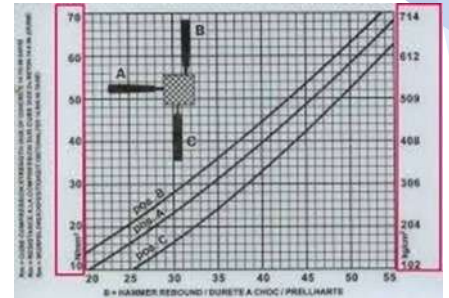
HAMMER TEST

Hammer test is an examination of the quality of concrete on the surface without damaging the concrete. This test is very useful to determine the uniformity of the concrete material on the surface of the structure.

- BS 1881 Part 202
- ASTM C805-2
- EN BS 12504-2

Equipment used:

Grinder, Form and Stationery, Chalk, Meter, 1 Set Schimdt Rebound Hammer Digital



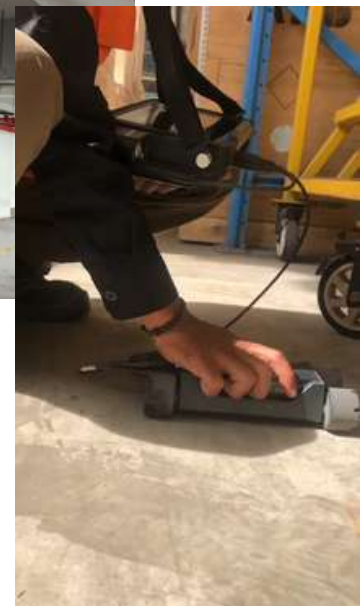
REBAR SCANNING TEST

The rebar scanning test is carried out to detect the configuration of the reinforcement in the concrete. This test is carried out for all types of reinforced concrete structures such as columns, beams, slabs and walls

- BS 1881:204
- ACI 228.2R-2.51

Equipment used:

Rebar Scanner, Grinder, Meter, Wire Brush.

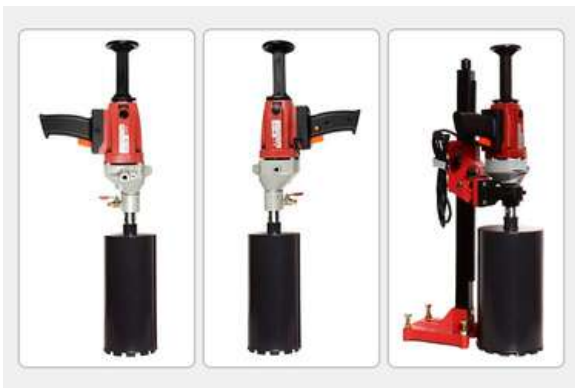


TYPE	TUMPUAN	LAPANGAN
B5 450x650		
TUL. ATAS	7D25	3D25
TUL. BAWAH	6D25	3D25
TUL. GESER	3D10-100	3D10-200
TUL. PINGGANG	2D19	2D19

CORE DRILL TEST

Core drill testing or what is also called core concrete drilling is testing on cylindrical concrete sample obtained from drilling in building structures.

- ASTM C42
- SNI 2492:2018



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LAPORAN HASIL PENGUJIAN KUAT TEKAN MORTAR
REPORT OF COMPRESSION STRENGTH OF MORTAR

LUBES NIKER 20SERV 86

NAMA: _____
 Mawar
 DOKUMEN: _____
 Disetujui Di:
 PROJEK: _____
 Project
 DESAIN TAMBAH: _____
 Revisi Di:
 STANDAR AKADEMI: _____
 Standard of Reference
 DESKRIPTOR TAMBAH: _____
 Published Di:

No.	Seri	Tanggal		Dua Benda (18 No)	Jumlah Kuat (kg)	Diameter (mm)	Luas Bidang Tinggi (A ₀) (mm ²)	Tinggi (mm)	Tahanan (MPa)	R _m (N/mm ²)	
		1	2								
1	GC GRT	3-Apr-23	4-Apr-23	1	0,28	50,37	50,37	7516,45	45,87	14,87	0,03
2	GC GRT	3-Apr-23	4-Apr-23	1	0,29	50,37	50,37	7516,45	46,42	15,20	0,02
3	GC GRT	3-Apr-23	4-Apr-23	1	0,28	50,37	50,37	7516,45	40,56	13,48	0,03
4	GC GRT	3-Apr-23	6-Apr-23	3	0,28	50,37	50,37	7516,45	33,31	10,84	0,02
5	GC GRT	3-Apr-23	6-Apr-23	3	0,28	50,37	50,37	7516,45	33,31	10,84	0,02
6	GC GRT	3-Apr-23	6-Apr-23	3	0,28	50,37	50,37	7516,45	37,07	11,59	0,04
7	GC GRT	3-Apr-23	10-Apr-23	7	0,28	50,37	50,37	7516,45	37,07	11,59	0,04
8	GC GRT	3-Apr-23	10-Apr-23	7	0,28	50,37	50,37	7516,45	37,07	11,59	0,04
9	GC GRT	3-Apr-23	10-Apr-23	7	0,28	50,37	50,37	7516,45	37,07	11,59	0,04

Catatan:

CARBONATION TEST

Carbonation in concrete occurs when carbon dioxide in moist air reacts with hydrated cement material and produces carbonates such as potassium carbonate. Carbonation on exposed concrete surfaces occurs very slowly but can be damaging and weakening the structures as whole. Normally the carbonation test will be carried out together with concrete coring test, in which the carbonation percentage will be obtained and will be used for analysis.

- ASTM C 856-14

Equipment used:

Test Form, Drill, Sigmat, Phenolphthalein (5%) and Spray Bottle, Compressor, Piloks.



No.	Element Structure	Lokasi	Kode	Kedalaman Karbonasi (mm)	Rerata Selimut Beton* (mm)	Persentase Karbonasi (%)
1	Pelat	Trestle	S-35	6	37.4	16%
2	Pelat	Trestle	S-34	4	36.3	11%
3	Balok	Trestle	B-1	1	29.9	3%

DYE PENETRANT TEST

The dye penetrant test, or dye penetrant inspection, is a non-destructive method commonly used to detect cracks, defects, or leaks on metal surfaces, including steel joints. This method is useful for finding defects that are not visible to the naked eye on smooth surfaces and can be performed relatively quick.



- BS EN ISO 3452-1
- ASTM E165

Equipment used:

Penetrant, Developer, Cleaner, Grinder and Rust Remover

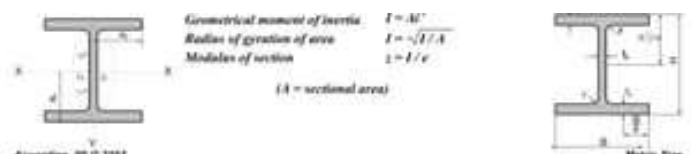
ULTRASONIC THICKNESS TEST

Ultrasonic Thickness Testing (UTT) is a non-destructive method commonly used to measure the thickness of materials, including steel. This method employs ultrasonic waves to penetrate the material and measure the time it takes for the waves to bounce back from the back surface of the material. This information is used to determine the material's thickness without causing damage or requiring sampling.

- BS EN ISO 16809
- ASTM E797

Equipment used:

Ultrasonic thickness gauge, couplant or ultrasonic gel, transducer, Calibration media
Grinder and Rust remover



According to BS 5950

Nominal Dimensional size	Standard Section Dimension				Section Area A	Unit Weight	Information Reference							
	H x B	T ₁	T ₂	L			Geometrical Moment of Inertia I	Radius of Gyration r	Modulus of Section Z _x	Z _y	Z _{pl,y}	Z _{pl,x}		
mm	mm	mm	mm	mm	cm ²	kg/m	cm ⁴	cm ²	cm ³	cm ³	cm ³	cm ³	cm ³	cm ³
100 x 100	100 x 100	6	6	10	21.90	17.20	363	144	4.18	3.67	76.00	26.7		
125 x 125	125 x 125	6.5	6.5	10	30.21	23.80	647	291	5.20	5.11	128.00	47.00		
150 x 75	150 x 75	6	7	8	17.80	14.00	369	92	6.11	1.68	5.88	13.00		
150 x 150	150 x 150	6	6	11	26.44	21.10	530	191	6.17	3.07	128.00	30.10		
175 x 150	175 x 150	7	10	11	40.14	31.70	1040	362	6.30	3.70	216.00	70.10		
175 x 175	175 x 175	7.5	11	12	51.21	40.20	1380	509	7.60	4.38	302.00	112.00		
200 x 150	198 x 149	4.3	7	11	23.18	18.20	500	114	6.26	3.21	160.00	23.00		
200 x 200	200 x 200	5.3	8	12	37.10	29.20	830	156	6.29	2.22	198.00	28.00		
225 x 150	194 x 170	6	9	12	36.81	28.50	1475	367	6.30	3.60	175.00	37.00		
225 x 225	220 x 220	6	12	13	53.82	48.90	2720	610	6.32	5.02	472.00	100.00		
250 x 125	248 x 124	6	8	12	32.80	25.70	1040	290	6.60	2.78	200.00	41.00		
250 x 250	250 x 250	6	12	13	77.40	60.80	4000	704	6.60	3.79	324.00	47.00		
275 x 225	270 x 220	6	14	16	61.10	71.40	10000	1000	6.60	6.20	467.00	70.00		
300 x 150	296 x 149	5.3	8	13	40.40	31.90	1600	442	6.60	3.29	424.00	66.00		
300 x 200	292 x 190	5.3	9	13	50.70	38.70	2700	608	6.60	3.20	481.00	67.00		
300 x 300	298 x 298	10	16	18	118.80	94.00	20000	1600	6.70	7.61	1060.00	160.00		
350 x 175	348 x 174	6	8	14	33.88	27.40	11700	790	6.80	3.08	341.00	62.00		
350 x 350	350 x 350	7	14	14	83.10	68.90	15000	1600	6.80	6.70	578.00	112.00		
350 x 390	350 x 390	12	18	20	173.8	137.00	40000	31000	6.80	10.20	800.00	170.00		
400 x 200	396 x 199	7	11	16	52.10	40.60	32000	1800	6.90	4.80	1210.00	148.00		
400 x 300	400 x 300	8	13	18	84.7	68.00	23700	2300	6.90	6.54	1390.00	218.00		
450 x 450	450 x 450	12	21	23	216.0	173.00	68000	20000	7.00	17.00	3300.00	530.00		
450 x 300	450 x 300	8	14	18	108.0	85.00	31000	1800	7.00	8.20	1600.00	282.00		
500 x 200	495 x 200	10	14	20	114.0	90.00	47000	2400	7.00	10.00	2100.00	318.00		
500 x 300	495 x 300	11	17	22	184.0	145.00	77000	3400	7.00	13.00	3000.00	420.00		
500 x 350	495 x 350	12	20	22	202.0	161.00	118000	5000	7.00	16.00	4000.00	600.00		
750 x 300	750 x 300	15	24	28	328.0	260.00	48000	18000	7.00	25.00	7000.00	1000.00		
1000 x 300	1000 x 300	14	28	32	382.0	300.00	70000	22000	7.00	32.00	9000.00	1300.00		
1000 x 350	1000 x 350	16	28	32	398.0	310.00	81000	23000	7.00	36.00	9400.00	1400.00		

BRINELL HARDNESS TEST

Brinell hardness testing is a metal hardness test that can be used to determine Brinell hardness. The information presented can be correlated to tensile strength, durability, ductility or other metal material characteristics

- ASTM A956
- ASTM E140
- ASTM E10- 08
- ISO/DIS 16859 (Part 1- Part 3)

Equipment used:

Testing Form, Stationery, Grinder, 1 Set Portable Hardness Tester.



BOLT TENSION TEST

Bolt tightness checks need to be carried out to determine the condition of bolt tightness. Inspections should be carried out periodically because the buildings are designed to always move, making it possible for any installed bolts to loosen.

- EN-MPS-705 Rev.3
- ASTM A325 Bolts
- ASTM A490 Bolts
- Surat Edaran Menteri PUPR No. 14/SE/M/2015

Equipment used:

Testing Form, Stationery, Torque Wrench, Socket Torque Wrench, Piloks



Tabel 1 - Gaya tarik maksimum dan minimum baut A325 dan Grade 8.8

Ukuran nominal	Proof load/gaya tarik maksimum (kN)		Gaya tarik minimum (kN)
	ASTM A325	ISO Grade 8.8	
M16	94.2	91	91
M20	147	147	142
M22	182	182	176
M24	212	212	205
M27	275	275	267
M30	337	337	326
M36	490	490	475

Sumber: SNI ASTM A325M.2012, Maryland Metrics, USA dan ISO898-1:2009

Tabel 2 - Gaya tarik maksimum dan minimum baut A490 dan Grade 10.9

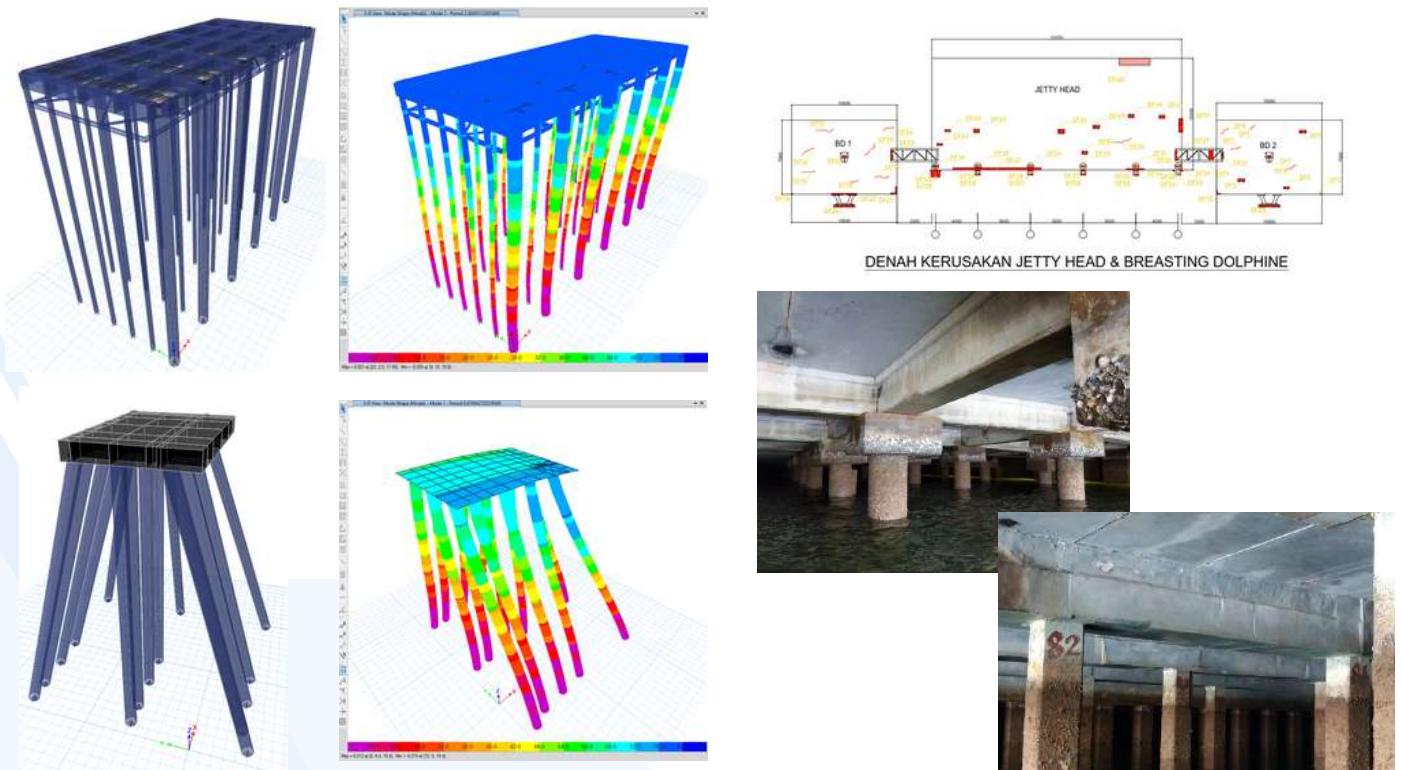
Ukuran nominal	Proof load/gaya tarik maksimum (kN)		Gaya tarik minimum (kN)
	ASTM A490	ISO Grade 10.9	
M16	130	130	114
M20	203	203	179
M22	251	252	221
M24	293	293	257
M27	381	381	334
M30	466	466	408
M36	678	678	595

Sumber: ASTM A490M-04, Maryland Metrics, USA dan ISO898-1:2009

SOLAR PANEL STRUCTURAL AUDIT



MARITIME STRUCTURES





OUR SERVICES

STRUCTURAL DRAFTING



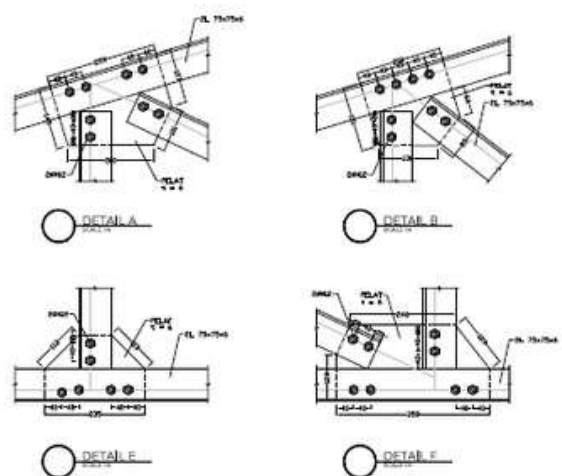
As-Built Drawing

As-built drawings, sometimes referred to as record drawings or red-line drawings, are records that enable a comparison of the designed and final structure through a comprehensive blueprint of the structure. Despite this importance, it is common for an as-built drawing to get lost or not to be achieved especially for paper plans that never make it to the digital copy. We provide as-built drawings and/or re-drawings as needed to support structural analysis through both visual inspection and non-destructive testing.

Detail Engineer Design (DED)

Detail Engineering Design, or DED, is a planning product in the form of detailed working drawings made by planning consultants for building work. Several main parts contained in the DED will be explained as follows:

- Foundation plan and details
- Floor structural plan (columns, beams, slabs, retaining walls, shear walls and core walls)
- Stair's plan
- Structural and connection details
- Roof plan



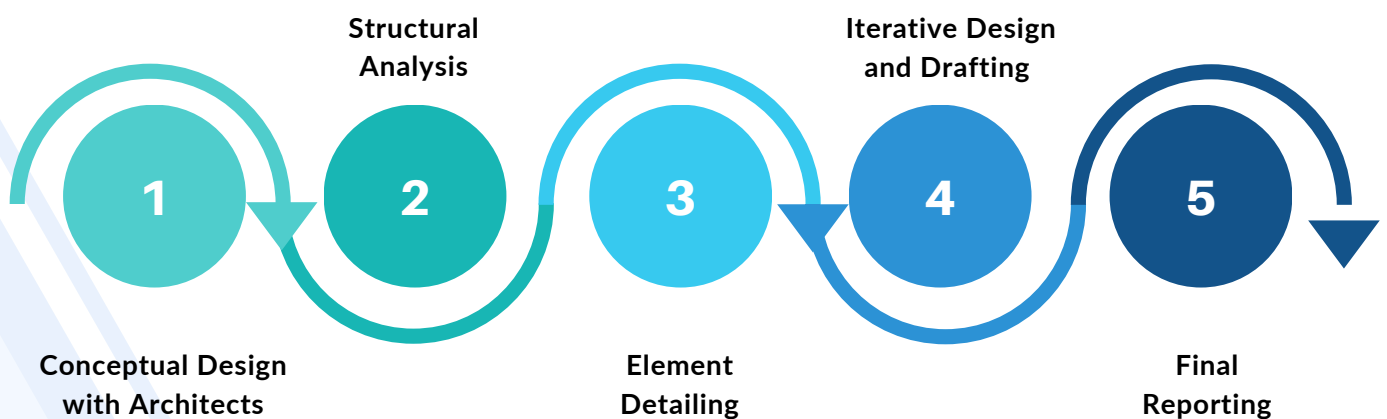


OUR SERVICES

STRUCTURAL DESIGN

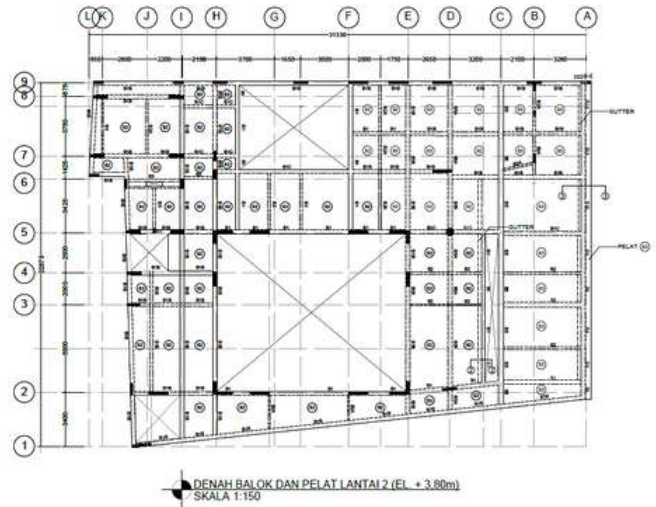
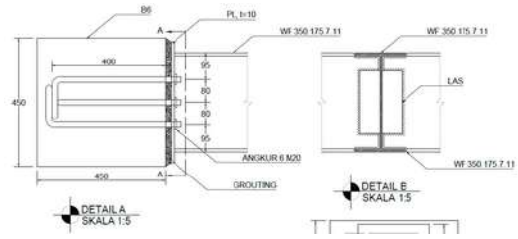
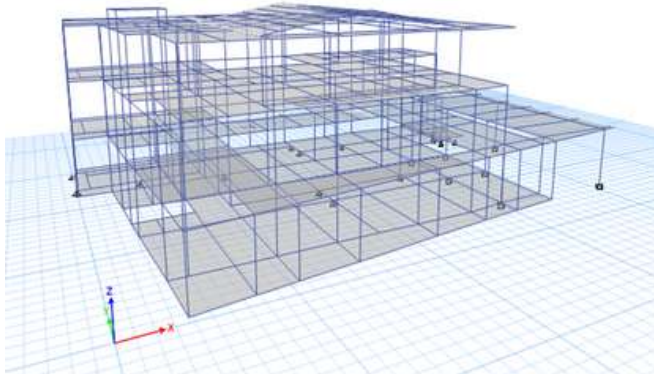
Structural design is the process of creating a safe and functional structure under pre-design load that it may experience. During this process, the structural engineer will determine the structure's stability, strength, and stiffness (rigidity) in order to produce a structure capable of resisting loads without failure during its intended life. Structural design involves dimensioning and detailing the different parts of the building based on the analysis results.

- **Designing new building structure** in accordance to architectural designs & with the architects
- **Government building approval**, as per needed (Peretujuan Bangunan Gedung / PBG)
- **Renovation and upgrades existing structure** (seismic upgrades, tenant improvements, installation of solar panel*, additional loading, etc.)

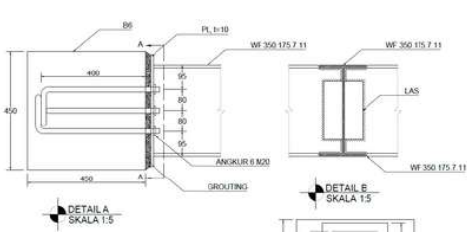


*For solar panel installation, it involves analysis of structure due to additional weight from solar panel installation; which can be both review with/without structural strengthening design, as per needed. The analysis can be conducted partially through 2D analysis although it is recommended to analyze the whole structure through 3D analysis.

STRUCTURAL DESIGN

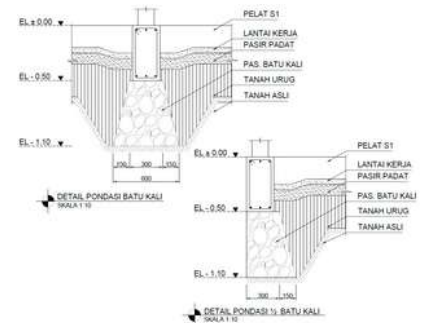
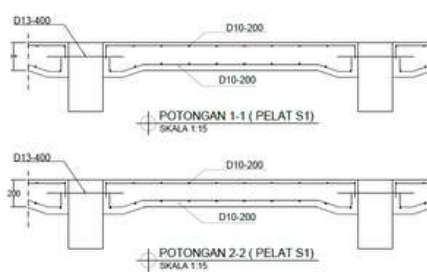
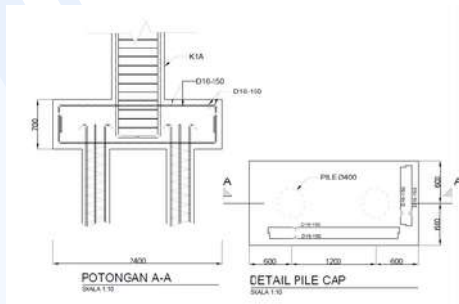


DETAILED ENGINEERING DESIGN



TYPE	TUMPUAN	LAPANGAN
B5 450x850		
TUL. ATAS	7D25	3D25
TUL. BAWAH	6D25	3D25
TUL. GESER	3D10-100	3D10-200
TUL. PINGGANG	2D19	2D19

TYPE	TUMPUAN	LAPANGAN
BT 350x600		
TUL. ATAS	5D25	3D25
TUL. BAWAH	5D25	3D25
TUL. GESER	2D10-100	2D10-200
TUL. PINGGANG	2D19	2D19





OUR SERVICES

COST-VOLUME ESTIMATION AND SCHEDULING

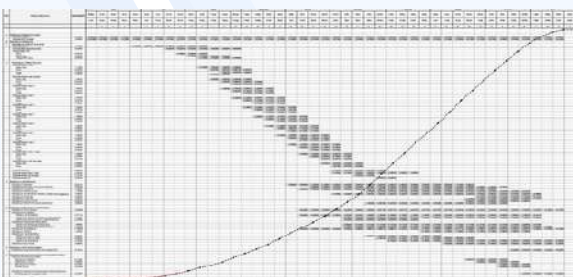
Construction cost estimating is a comprehensive calculation to determine the total budget needed to complete a project, presented in the form of Bill of Quantity (BoQ). However, this cost-volume estimation is not limited to new design or new construction but it can be done on existing building for renovation, strengthening and comparison of construction and installed items.

Construction scheduling may involve large and complex coordination of numerous activities, personnel, and resources. It organizes activities and their sequence in a construction project, providing the estimated completion time for a construction and/or renovation.

OUR SERVICES

CONSTRUCTION MANAGEMENT

We offer professional construction management services with a focus on project supervision, ensuring every phase of construction runs on schedule and within budget. Our experienced team oversees all aspects, maintaining quality, safety, and compliance with regulations. Trust us to deliver your project on time, on budget, and to the highest standards.





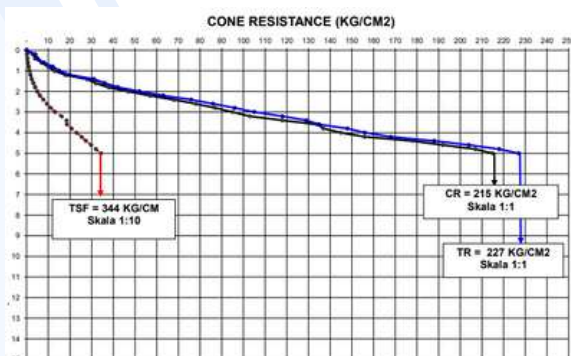
OUR SERVICES

SOIL INVESTIGATION

Soil investigation is a form of exploration that involves soil sampling and soil testing on site to obtain geotechnical data. The data obtained is usually used to evaluate soil conditions and design foundations.

No.	Uraian	Kedalaman	
		5,00 - 5,50 meter	10,50 - 11,00 meter
	Condition of Sample	Undisturbed Sample	Disturbed Sample
1	Sieve Analysis	Lempung Berpasir (halus, sedang)	Pasir Halus
	Gravel (%)	0,00	1,64
	Coarse Sand (%)	0,26	2,87
	Medium Sand (%)	9,18	12,08
	Fine Sand (%)	73,66	71,72
	Silt and Clay (%)	16,91	11,68
2	Water Content (%)	41,12	36,39
3	Unit Weight of Wet (Vb)	1,28	1,27
	Unit Weight of Dry (Vd)	1,08	1,14
4	Specific Gravity (Gs)	2,55	2,54
5	Atterberg Limit		
	Liquid Limit (LL)	54,15	-
	Plastic Limit (PL)	43,48	-
	Plastic Index (PI)	10,67	-
6	Direct Shear		
	Cohesion Intercept (c) kg/cm ²	29,41	40,15
	friction Angle (α) degree	0,00089	0,0
7	Consolidation		
	Compression Index (Cc)	-	-
	Coef. Consolidation (Cv) cm ² /sec	-	-

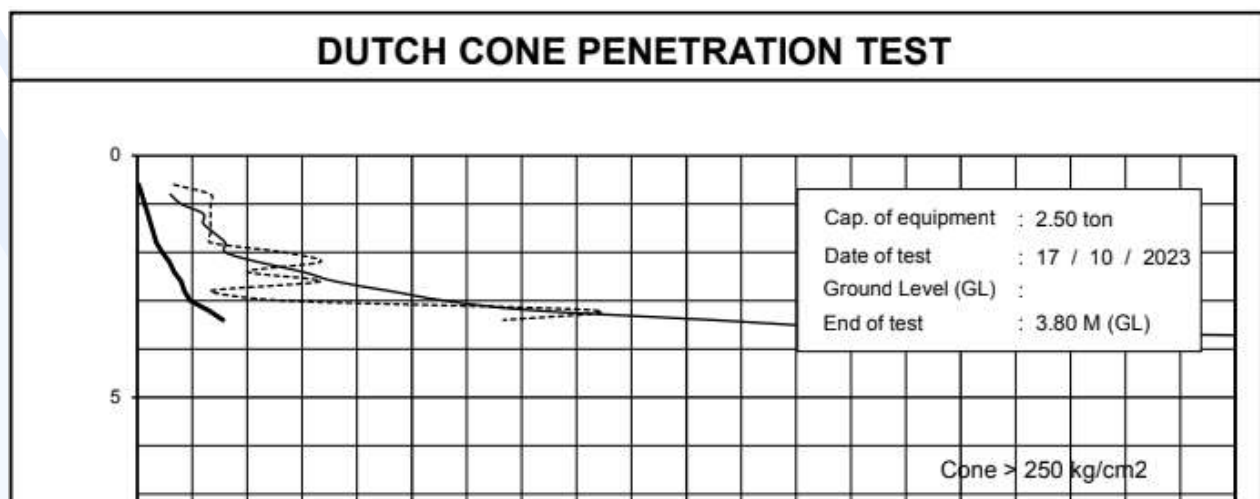
- Boring or Standard Penetration Test (SPT)
- Cone Penetration Test (CPT, also known as sondir)
- Undisturbed Sampling (UDS)
- Ground Penetration Radar (GPR)
- Dig trial pit
- Laboratory Tests for index properties and engineering properties
- Foundation recommendation in accordance to the soil bearing capacity
- Land satellite contouring



SONDIR (CONE PENETRATION TEST)

The Cone Penetration Test (CPT), also known as "sondir," is a soil investigation method using a cone penetrometer with hydraulic pressure. During this test, data on the soil's resistance or bearing capacity against the cone's penetration is continuously obtained. The data collected includes the soil resistance profile, soil density, and soil friction.

DUTCH CONE PENETRATION TEST (DATA SHEET)																				
CONE BASE AREA : 10 Cm ²										TEST No. : S - 01										
FRICTION JACKET AREA : 150 Cm ²										DATE OF TEST : 17 / 10 / 2023										
EQUIPMENT CAPACITY : 2.5 Tonf										TESTED BY : Mulyanto										
PISTON (PLUNGER) AREA : 10 Cm ²										GROUND LEVEL (GL) :										
CONE RESISTANCE = 1,0 x CONE READING (EQUIP. CAP. = 2,5 Tonf)															SHEET No. :					
CONE RESISTANCE = 2,0 x CONE READING (EQUIP. CAP. = 10.0 Tonf)																				
1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
ROD	DEPTH	READING			JACKET OR LOCAL FRIC.	TOTAL FRICTION	ROD	DEPTH	READING			JACKET OR LOCAL FRIC.	TOTAL FRICTION	ROD	DEPTH	READING			JACKET OR LOCAL FRIC.	TOTAL FRICTION
		CONE	CONE + JACKET	JACKET					CONE	CONE + JACKET	JACKET					CONE	CONE + JACKET	JACKET		
~	m	Kg/cm ²				Kg/cm	~	m	Kg/cm ²				Kg/cm	~	m	Kg/cm ²				Kg/cm
	0.00	-	-	-	-	-	10	10.00						20	20.00					
	0.20	-	-	-	-	-		10.20							20.20					
	0.40	-	-	-	-	-		10.40							20.40					
	0.60	-	-	2.00	0.13	2.67		10.60							20.60					
	0.80	6	8	4.00	0.27	8.00		10.80							20.80					
1	1.00	8	12	4.00	0.27	13.33	11	11.00						21	21.00					
	1.20	12	16	4.00	0.27	18.67		11.20							21.20					
	1.40	12	16	4.00	0.27	24.00		11.40							21.40					
	1.60	14	18	4.00	0.27	29.33		11.60							21.60					
	1.80	16	20	4.00	0.27	34.67		11.80							21.80					
2	2.00	16	20	8.00	0.53	45.33	12	12.00						22	22.00					
	2.20	22	30	10.00	0.67	58.67		12.20							22.20					
	2.40	30	40	6.00	0.40	66.67		12.40							22.40					
	2.60	36	42	10.00	0.67	80.00		12.60							22.60					
	2.80	46	56	4.00	0.27	85.33		12.80							22.80					
3	3.00	56	60	8.00	0.53	96.00	13	13.00						23	23.00					
	3.20	72	80	25.00	1.67	129.33		13.20							23.20					
	3.40	105	130	20.00	1.33	156.00		13.40							23.40					
	3.60	140	160	-	-	-		13.60							23.60					
	3.80	> 250	-	-	-	-		13.80							23.80					
4	4.00						14	14.00						24	24.00					
	4.20							14.20							24.20					





OUR SERVICES

TRAFFIC MANAGEMENT & ROAD SURVEY

Andalalin (Traffic Impact Analysis) is a series of study activities regarding the traffic impacts of the development of activity centers, organizations, and infrastructure, the results of which are presented in the form of documents resulting from traffic impact analysis. Andalalin is one of the conditions for the issuance of IMB and SLF.

Bangkitan Tinggi

Bangkitan Sedang

Bangkitan Rendah



MIBU

Mitra Inti Bangkit Undagi

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