

FTKA LABORATORY PROFILE



FTKA

Block TTI

MATERIALS
AND
STRUCTURE
LABORATORY

Version
29 April 2026

FTKA LABORATORY PROFILE



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AND
STRUCTURE
LABORATORY

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29 April 2026

MATERIALS AND STRUCTURE LABORATORY

BASIC

INFORMATION

Location:
Block TTI

Person In Charge :

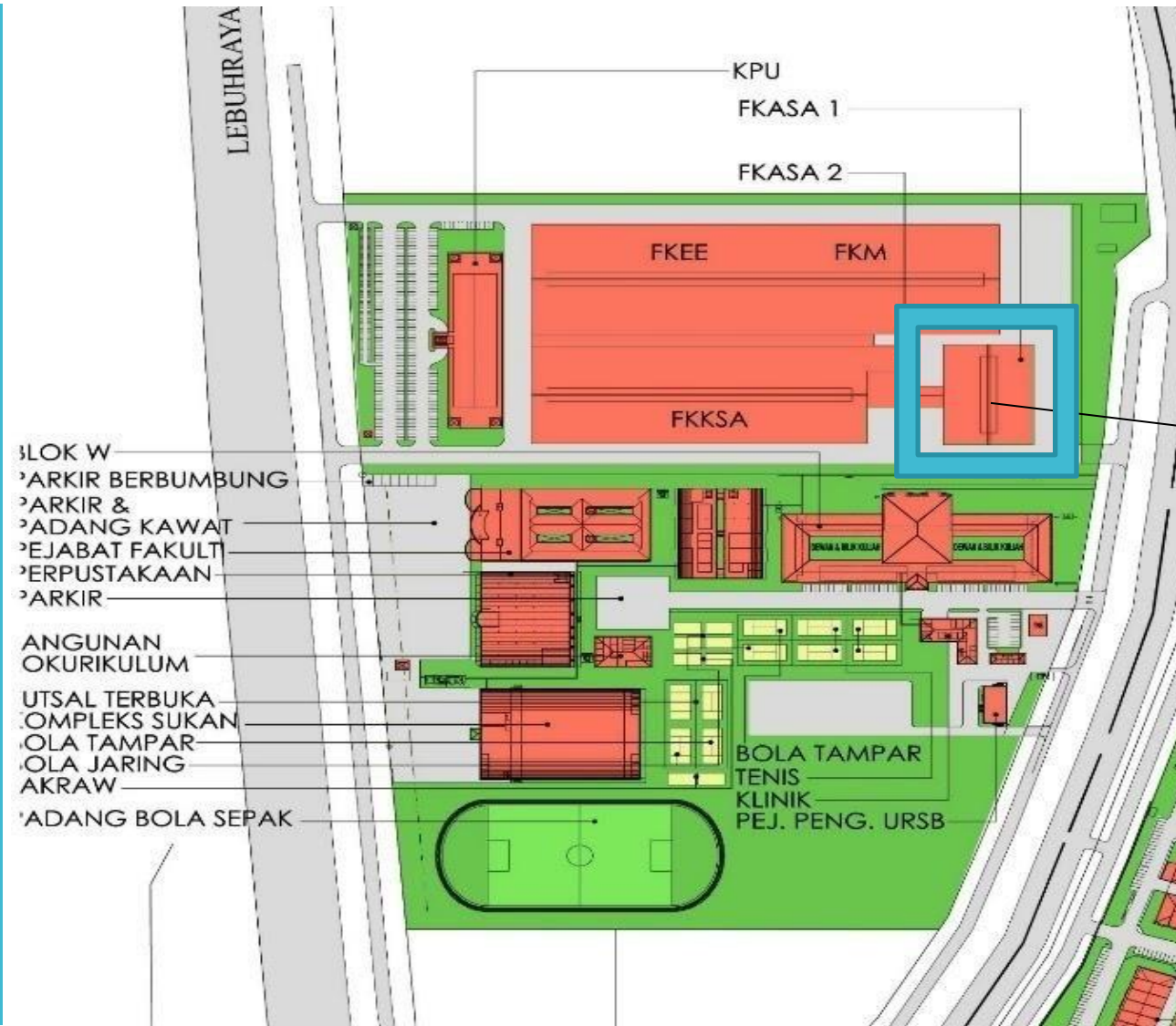
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Kamarul Azri Bin Harun
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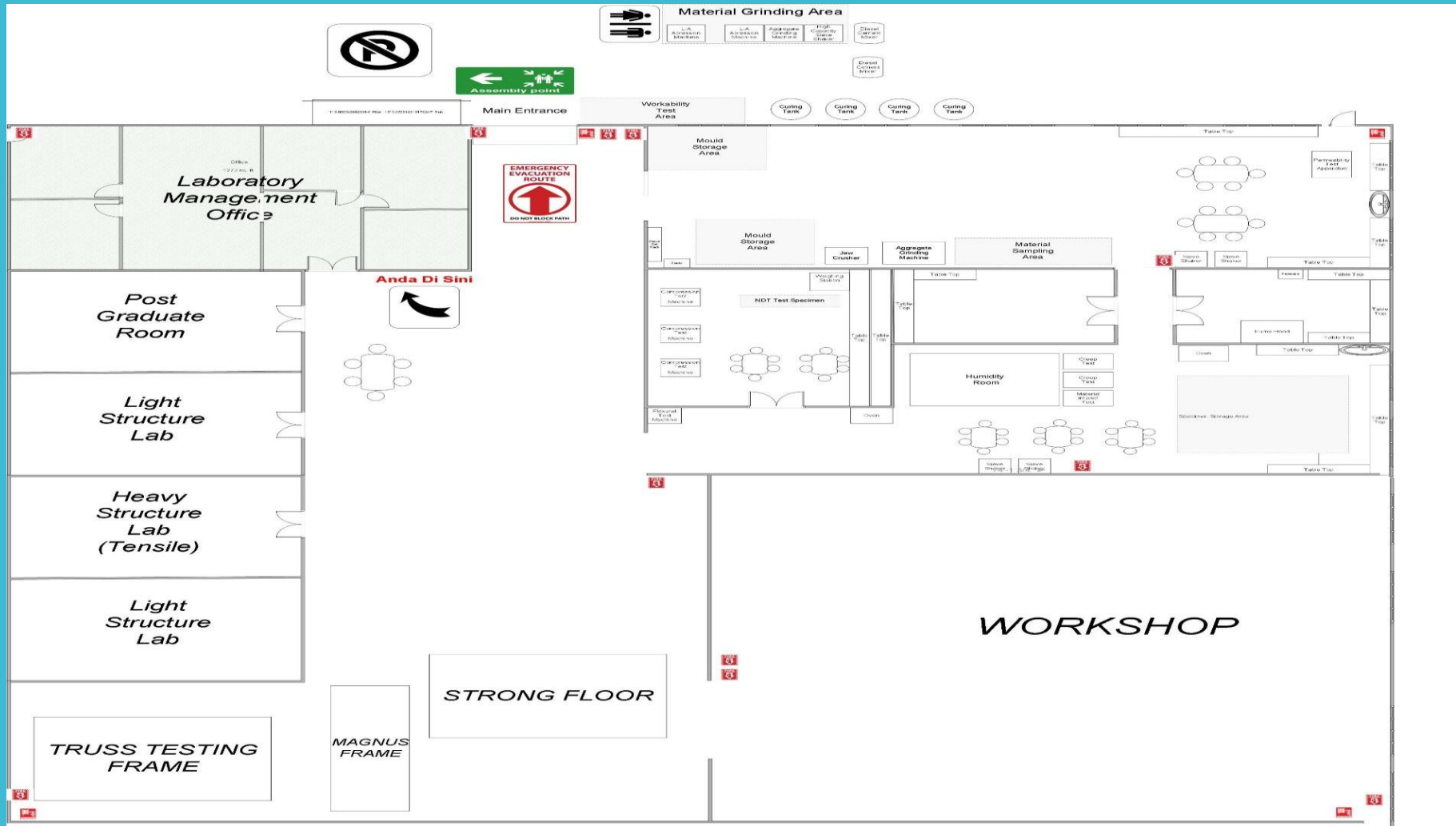
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LABORATORY

MATERIALS AND STRUCTURE LABORATORY

LABORATORY LAYOUT



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ESCAPE ROUTE PLAN (ERP)

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MATERIALS AND STRUCTURE LABORATORY

EMERGENCY ROUTES PLAN



ASSEMBLY AREA



ASSEMBLY POINT 14

IN CASE OF EMERGENCY

- Remain calm, Do not panic
 - Remove all person from danger
 - In case of fire Do not use LIFT.
- leave the building using the nearest
EXIT ROUTE
WALK, DO NOT RUN.

EMERGENCY NUMBERS

BOMBA / AMBULANS



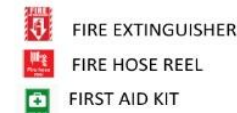
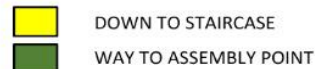
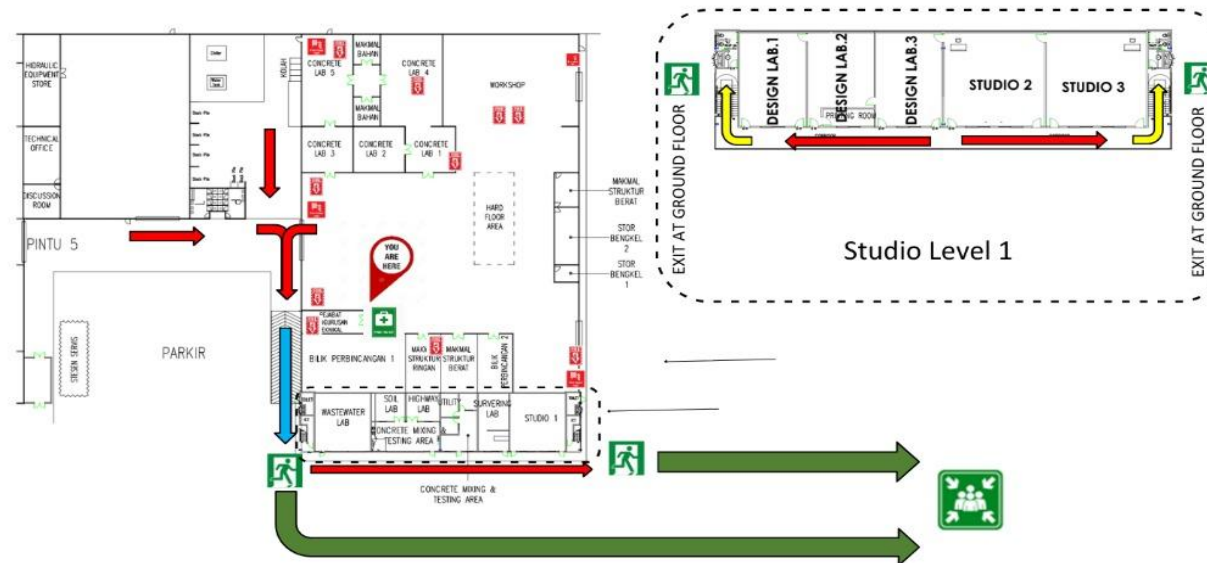
999

FTKA / UMPSA:
09 – 431 5005

ERP LAYOUT REVISION

- REVISION NO. 01
- REVISION DATE: 1st OCTOBER 2025
- PREPARED BY: MAKMAL BAHAN & STRUKTUR, FTKA
- ENDORSED BY: JAWATANKUASA KESELAMATAN & KESIHATAN PEKERJAAN (JKKP) FTKA

EMERGENCY ROUTES PLAN FACULTY OF CIVIL ENGINEERING TECHNOLOGY Block TTI – FTKA Laboratories & Studio



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29 April 2026

MATERIALS AND STRUCTURE LABORATORY

NATURE OF CONCRETE LABORATORY

“The nature of a concrete laboratory refers to its characteristics, functions, and primary roles in the field of civil engineering. It is not merely a place for conducting tests, but also serves as a quality control center for construction materials. In addition, it is used to analyze the properties of concrete, ensure compliance with standards, and support research and development to improve material performance.”

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CONCRETE
LABORATORY

MATERIALS AND STRUCTURE LABORATORY

LISTS OF EXPERIMENT (P&P)

No	EXPERIMENT
1	Sieve Analysis
2	Material Preparation For Concrete Mix Design / Workability
3	Concrete Mix Design / Workability - Slump test - Vebe test - Compaction
4	Destructive Test - Compression test - Flexural test
5	Non-destructive Test - Ultrasonic pulse velocity test - Rebar locator test

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CONCRETE
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MATERIALS AND STRUCTURE LABORATORY

LABORATORY
PICTURES

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CONCRETE
LABORATORY



MATERIALS AND STRUCTURE LABORATORY

NATURE OF STRUCTURE LABORATORY

“The nature of a structural laboratory refers to its characteristics, functions, and primary roles in the field of civil engineering. It is not merely a place for conducting tests, but also serves as a facility for evaluating the behavior, strength, and performance of structural elements such as beams, columns, and slabs under various loading conditions.”

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STRUCTURE
LABORATORY

MATERIALS AND STRUCTURE LABORATORY

LISTS OF EXPERIMENT (P&P)

No	EXPERIMENT
1	Tensile Test
2	Shear Force Influence Line / Bending Moment Influence Line
3	Forces in Redundant Truss / Forces in Truss
4	Pinned Arch / Reactions And Fixing Moments Of A Fixed Beam And A Propped Cantilever
5	Portal Frame / Suspension Cable & Bridge
6	Strut Buckling

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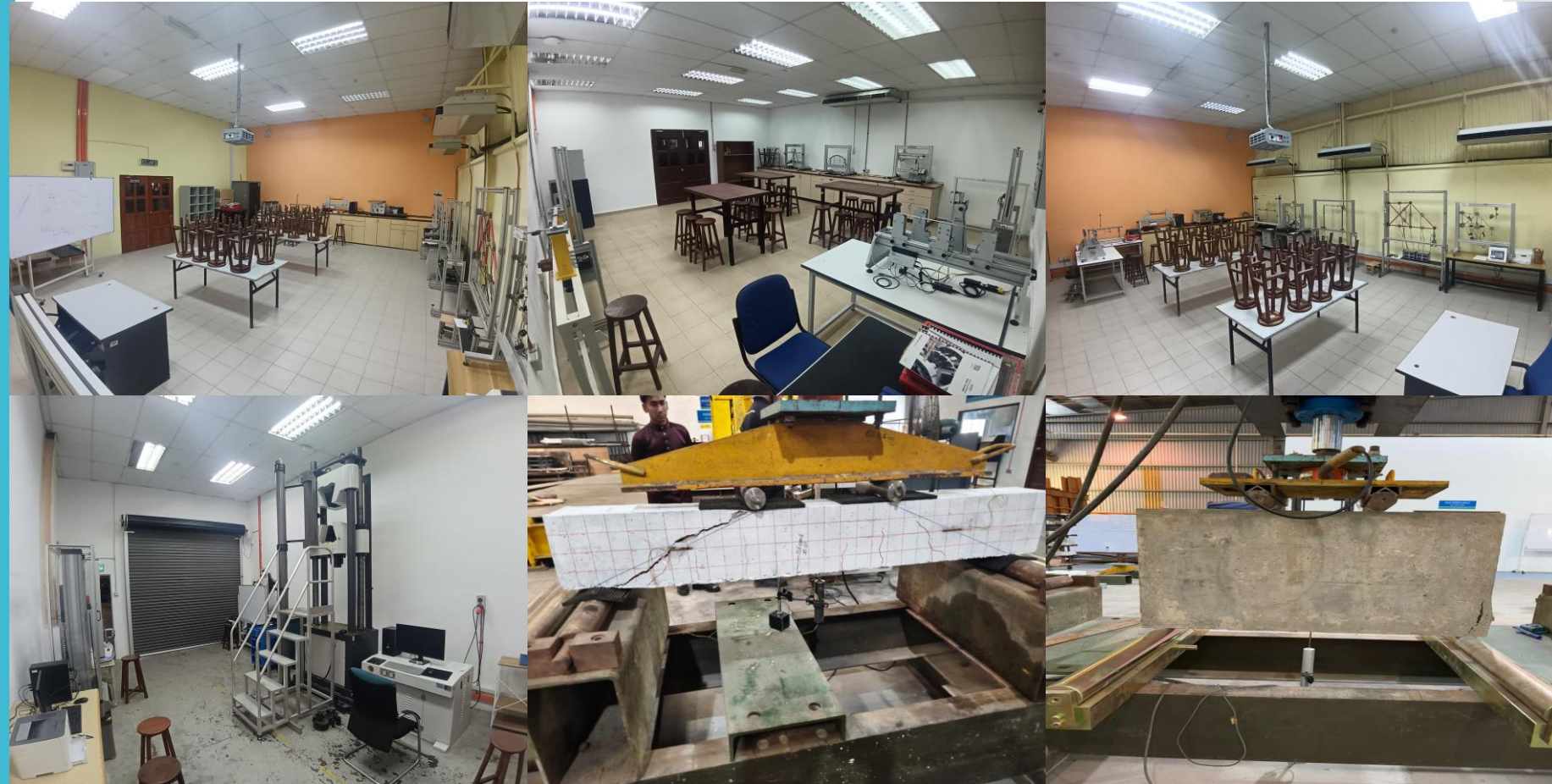
MATERIALS AND STRUCTURE LABORATORY

LABORATORY
PICTURES

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STRUCTURE
LABORATORY



MATERIALS AND STRUCTURE LABORATORY

NATURE OF WORKSHOP

“The nature of a workshop refers to its characteristics, functions, and primary roles in practical and technical activities. It is not merely a place for using tools, but also serves as a facility for fabrication, maintenance, repair, and hands-on training involving various equipment and machinery.”

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WORKSHOP

MATERIALS AND STRUCTURE LABORATORY

LISTS OF EQUIPMENTS

No	EQUIPMENTS	QUANTITY
1	FORKLIFTS	2
2	AUTOMATIC PLANNER MACHINE	2
3	BENCH SAW	4
4	AIR COMPRESSOR (PORTABLE)	6
5	PIPE TREADING MACHINE	1
6	BENCH DRILL	3
7	COMPOUND MITRE SAW	1
8	BENCH GRINDER	2
9	BAND SAW MACHINE	1
10	CRANE (PORTABLE)	1
11	UNIVERSAL EXTRUDER	1
12	CRANE	1
13	CONCRETE CUTTER MACHINE	2
14	WELDING BAY	1
15	MIG WELDING SET	2

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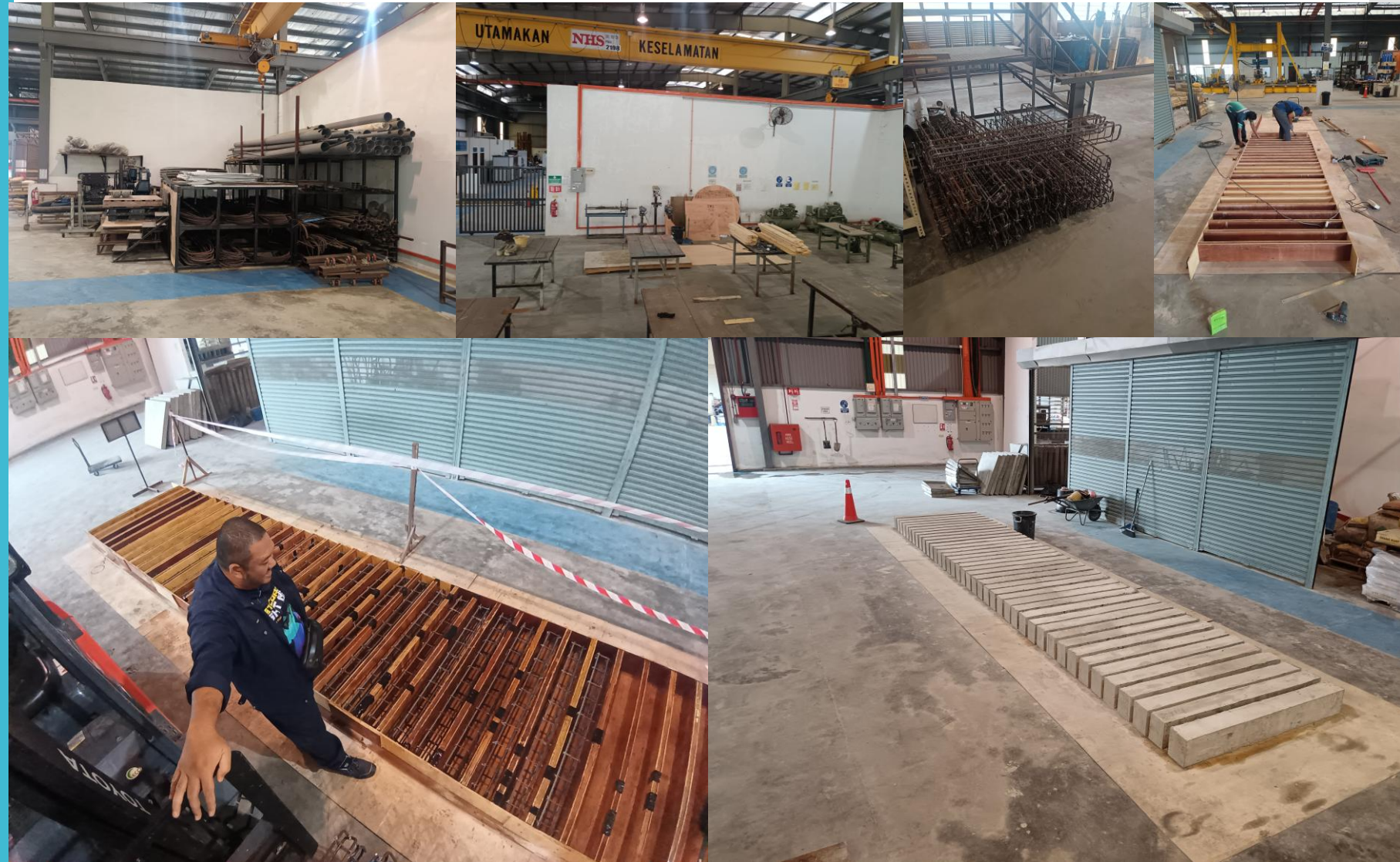
MATERIALS AND STRUCTURE LABORATORY

LABORATORY
PICTURES

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WORKSHOP



MATERIALS AND STRUCTURE LABORATORY

LIST OF SERVICES

Consultancy and Technical Services

“Consultancy and technical services refer to professional advisory and technical support provided to ensure the effective planning, design, implementation, and maintenance of engineering projects.”

“The laboratory also provides consultancy and technical services to support construction projects.”

“Consultancy and technical services are essential to ensure compliance with engineering standards and project requirements.”

No	Testing
Concrete Laboratory	
1	Rebound Hammer
2	Rebar Locator/Cover Meter/ Ferroskan
3	In-situ Ultrasonic Pulse Velocity (UPV) measurement.
4	Digital Half Cell
5	Concrete Core Compressive Strength
6	Pull-Off Test
7	Concrete Ground Penetrating Radar (GPR) (Area of 600mmX600mm)
8	Chloride Content Test
9	Sulphate Content Test
10	Petrographic Test Using Scanning Electron Microscope (SEM)
Structure Laboratory	
1	Tensile Test
2	Bending and Re-Bending Test
3	Fluxural Test

MATERIALS AND STRUCTURE LABORATORY

TESTING PICTURES

MATERIALS AND STRUCTURE LABORATORY

Person In Charge :

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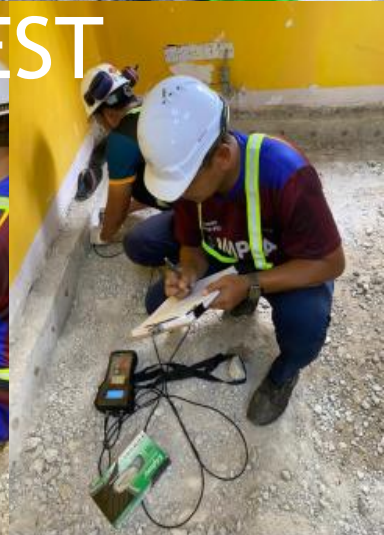
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Coring
Work



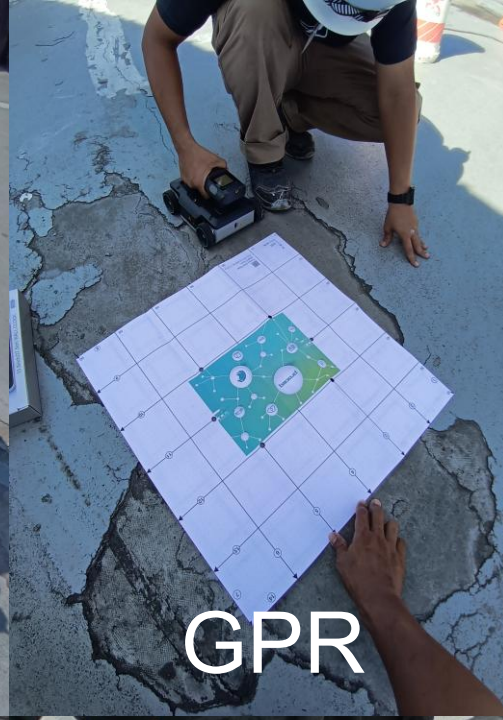
UPV
TEST



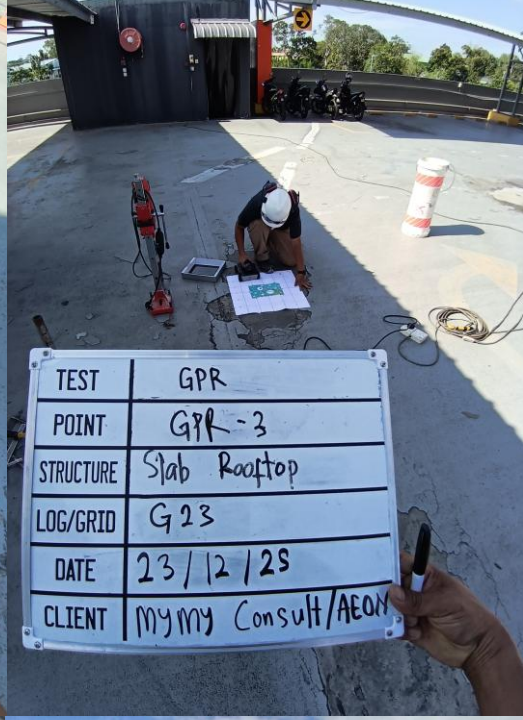
REBOUND
HAMMER



TEST	GPR
POINT	GPR-2
STRUCTURE	Slab Rooftop
LOG/GRID	H 23
DATE	23/12/25
CLIENT	MyMy Consult/AEON



GPR



TEST	GPR
POINT	GPR-3
STRUCTURE	Slab Rooftop
LOG/GRID	G 23
DATE	23/12/25
CLIENT	MyMy Consult/AEON

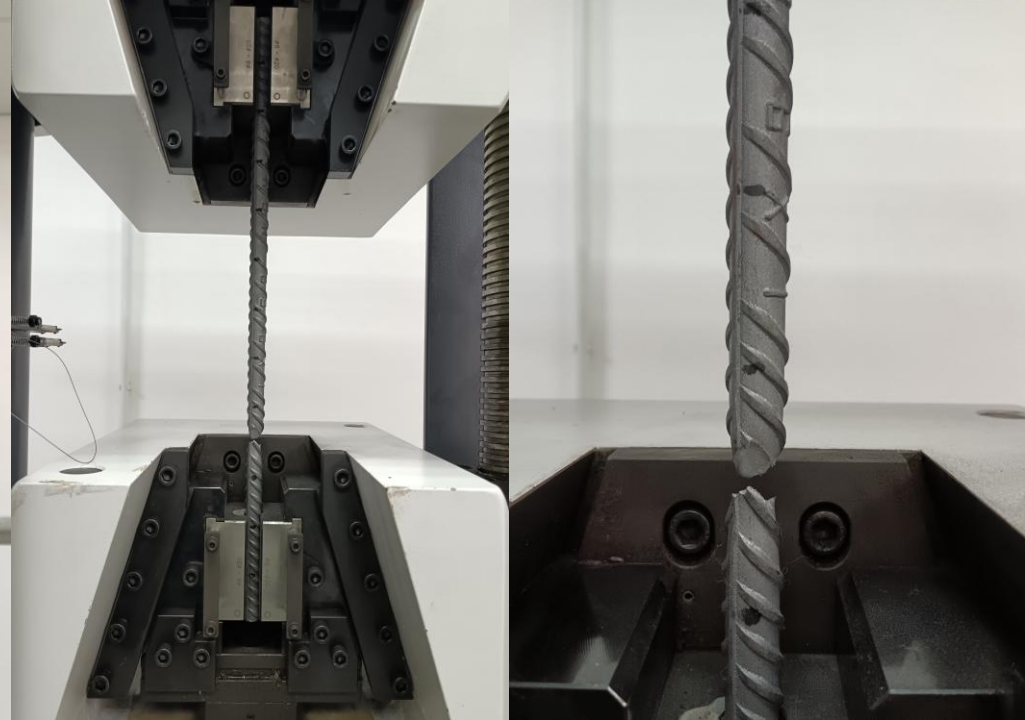


PULL-OFF TEST





COMPRESSION CUBE
TEST



FEERO SCAN



TENSILE AND
BENDING TEST

LIST OF

MATERIALS AND STRUCTURE LABORATORY

COMPLETED

PROJECTS

2025 & 2026

The Materials and Structural Laboratory offers comprehensive technical services and consultancy to external stakeholders, encompassing the testing, evaluation, and analysis of construction materials and structural components. These services include advanced laboratory testing, detailed technical reporting, and expert advisory support to ensure adherence to relevant standards, specifications, and best engineering practices.

No	Type of Testing	Company Name	Project Site	Project Date
1	PROPOSED STRUCTURAL ASSESSMENT TO THE EXISTING STRONG FLOOR ROOM LOADING CAPACITY PROPOSAL FOR FLOORS STRENGTHENING	AMZA CONSULT	BANK ISLAM (KL/SELANGOR/N9)	4 -7 FEBRUARY 2025
2	FLEXURAL TEST (3 POINT BENDING)	HAMMER ENGINEERING SDN BHD	FTKA,UMPSA	7 APRIL 2025
3	- TENSILE TEST - CORING SAMPLINGS, PREPARATION & COMPRESSIVE STRENGTH TEST	HAMMER ENGINEERING SDN BHD	FTKA,UMPSA	24 APRIL 2025
4	KERJA-KERJA UJIKAJI STRUKTUR BANGUNAN DI BANGUNAN RUMAH REHAT BERA PAHANG DM (NDT TEST)	GAGASAN PERUNDING	BERA,PAHANG	29 - 30 APRIL 20265
5	CORING SAMPLING, PREPARATION & COMPRESSIVE STRENGHT TEST	HAMMER ENGINEERING SDN BHD	FTKA,UMPSA	19 MAY 2025
6	CORING SAMPLING, PREPARATION & COMPRESSIVE STRENGHT TEST	HAMMER ENGINEERING SDN BHD	FTKA,UMPSA	10 JUNE 2025
7	NDT TEST	DAKOTA INTEGRATED SERVICES SDN BHD	KEMAMAN, TERENGGANU	24 - 25 AUGUST 2025
8	NDT TEST	MEGA RUNDING CONSULT	KUALA TERENGGANU, TERENGGANU	24 - 25 AUGUST 2025
9	NDT TEST	LEMBAGA TABUNG AMANAH WARISAN TERENGGANU	KUALA TERENGGANU, TERENGGANU	23 - 25 SEPTEMBER 2025
10	NDT TEST	MYMY CONSULT	KLUANG, JOHOR	22 -25 DECEMBER 2025