SCHEDULE LIST OF MECHANICAL & ELECTRICAL DRAWINGS

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CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU.

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emechconsult@gmail.com

SENARAI LUKISAN

PLUMBING COLD WATER SYSTEM

ITEM	DESCRIPTION	DRAWING NO.
1.	- KEY PLAN, LOCATION PLAN & SITE PLAN	ECE/P-20/25/PCW-SP
2.	- GROUND FLOOR PLAN	ECE/P-20/25/PCW-01
3.	- ROOF PLAN & SCHEMATIC DIAGRAM	ECE/P-20/25/PCW-02

PLUMBING SANITARY SYSTEM

ITEM	DESCRIPTION	DRAWING NO.
1.	- GROUND FLOOR PLAN	ECE/P-20/25/PS-01
2.	- SCHEMATIC DIAGRAM & STANDARD DETAIL	ECE/P-20/25/PS-02

AIRCONDTIONING SYSTEM

ITEM	DESCRIPTION	DRAWING NO.
1.	- GROUND FLOOR PLAN	ECE/P-20/25/AC-01

FIRE PROTECTION SYSTEM

ITEM	DESCRIPTION	DRAWING NO.
1.	- KEY PLAN,LOCATION PLAN & SITE PLAN	ECE/P-20/25/FP-SP
2.	- GROUND FLOOR PLAN	ECE/P-20/25/FP-01
3.	- SCHEMATIC DIAGRAM	ECE/P-20/25/FP-02

AIR COMPRESSOR SYSTEM

ITEM	DESCRIPTION	DRAWING NO.
1.	- GROUND FLOOR PLAN	ECE/P-20/25/ACOM-01

SENARAI LUKISAN

ELECTRICAL SYSTEM

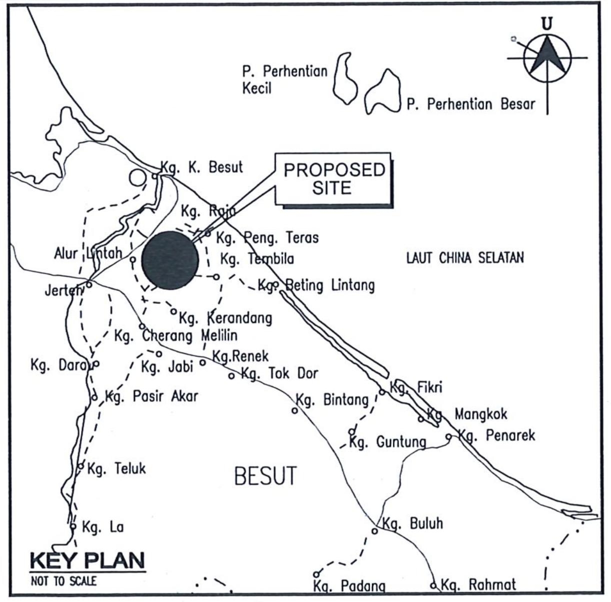
ITEM	DESCRIPTION	DRAWING NO.
1.	- KEY PLAN, LOCATION PLAN & SITE PLAN	ECE/P-20/25/EL-SP01
2.	SITE PLAN BENGKEL PROGRAM TEKNOLOGI AUTOMOTIF - EXTERNAL UNDERGROUND CABLE ROUTE	ECE/P-20/25/EL-SP02
3.	KEY PLAN, LOCATION PLAN & SITE PLAN - COMPOUND LIGHTING LAYOUT & DETAILS	ECE/P-20/25/EL-CL
4.	LIGHTING LAYOUT - GROUND FLOOR PLAN	ECE/P-20/25/EL-01
5.	SMALL POWER LAYOUT - GROUND FLOOR PLAN	ECE/P-20/25/EL-02
6.	SINGLE LINE DIAGRAM - DISTRIBUTION BOARD 1	ECE/P-20/25/EL-03
7.	SINGLE LINE DIAGRAM (WORBAY) - DISTRIBUTION BOARD 2	ECE/P-20/25/EL-04
8.	SINGLE LINE DIAGRAM - SUB SWITCH BOARD (SSB-TA)	ECE/P-20/25/EL-05
9.	SINGLE LINE DIAGRAM - MAIN SWITCH BOARD (EXISTING)	ECE/P-20/25/EL-06

LIGHTNING PROTECTION SYSTEM

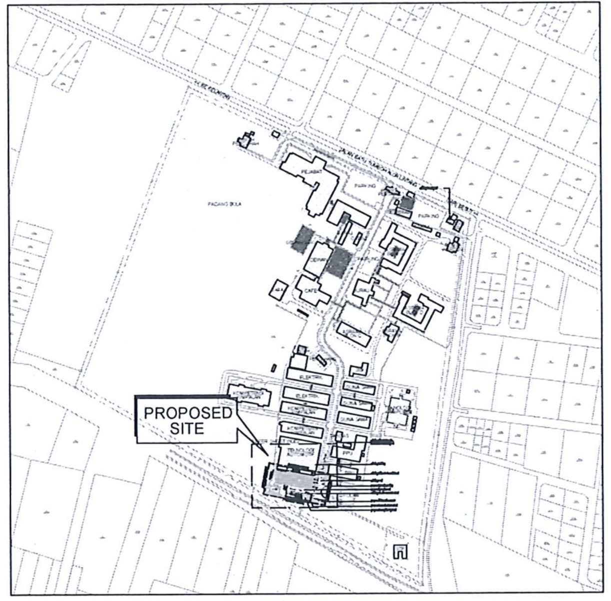
ITEM	DESCRIPTION	DRAWING NO.
10.	- ROOF PLAN LAYOUT - FRONT & REAR ELEVATION PLAN	ECE/P-20/25/LP-01
11.	- LEFT & RIGHT ELEVATION PLAN - DETAILS	ECE/P-20/25/LP-02

NETWORK SYSTEM

ITEM	DESCRIPTION	DRAWING NO.
12.	KEY PLAN, LOCATION PLAN & SITE PLAN - NETWORKING EXTERNAL WORK	ECE/P-20/25/ICT-SP
13.	- GROUND FLOOR PLAN - SCHEMATIC DIAGRAM	ECE/P-20/25/ICT-01



KEY PLAN



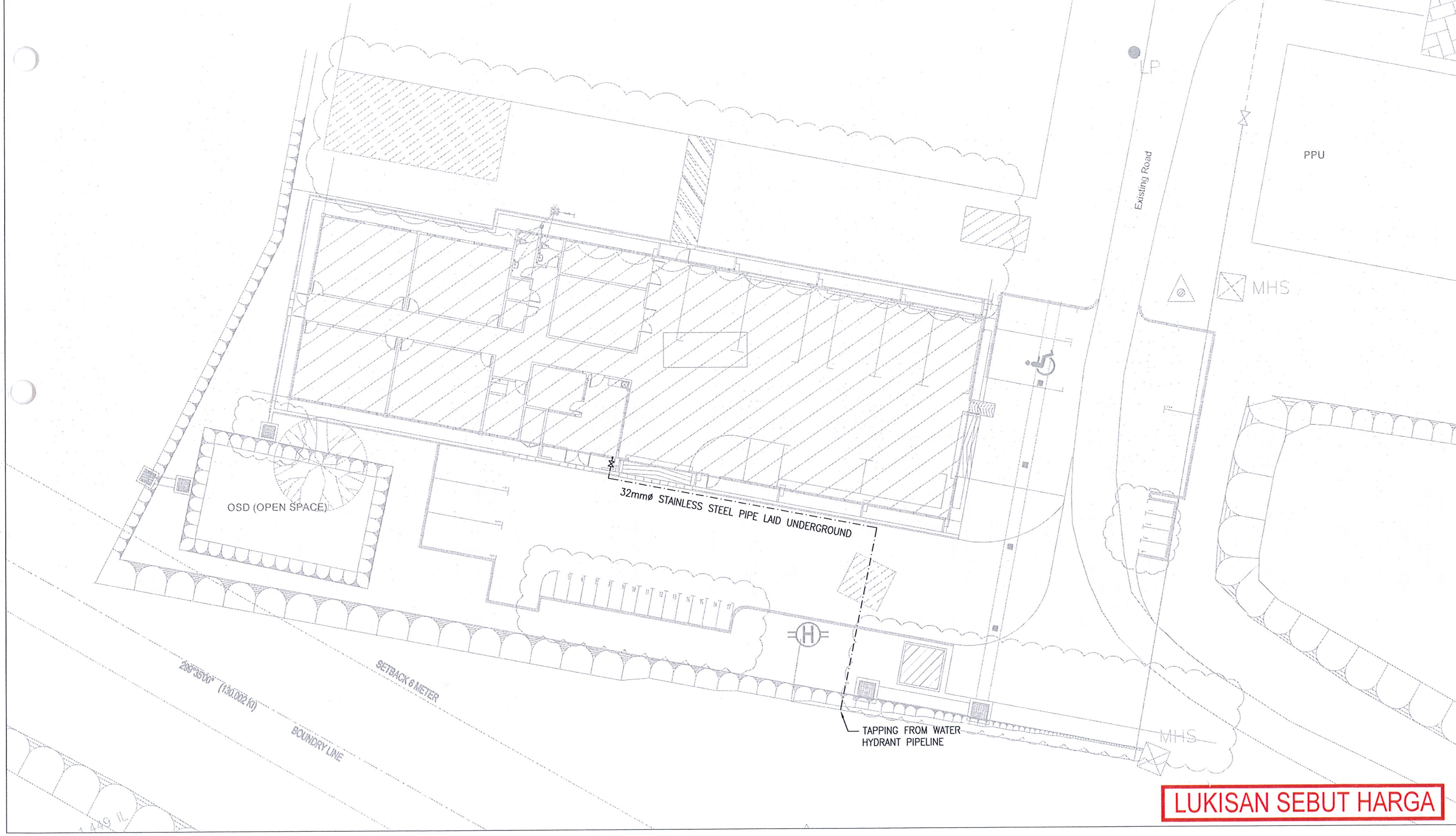
LOCATION PLAN

NOTES :

PAIP AIR DALAMAN

1. PAIP AIR DALAMAN SELEPAS TANGKI ADALAH DARI JENIS uPVC PIPE CLASS 7 MELAINKAN IANYA DITUNJUK DALAM LUKISAN.
2. PAIP AIR DALAMAN SELEPAS TANGKI DAN KE SANITARY FITTING HENDAKLAH DI TANAM DALAM DINDING DAN 'EXPOSED' HANYA DI DALAM SILING.
3. PIHAK SPAN/SATU TIDAK BERTANGGUNGJAWAB SEMUA KERJA–KERJA PEMASANGAN PAIP DALAMAN YANG DILAKSANAKAN OLEH TUKANG PAIP & MESTILAH MEMPUNYAI LESEN YANG SAH DAN SENTIASA MEMATUHI SPESIFIKASI KERJA–KERJA PAIP DAN PERATURAN YANG DIKELUARKAN OLEH SPAN/SATU.
4. KERJA – KERJA PENYAMBUNGAN PAIP AIR PERHUBUNGAN DENGAN PAIP AIR RETIKULASI LUARAN PERLULAH DIBUAT MENGIKUT KEHENDAK – KEHENDAK SATU.
5. SEMUA PAIP PERLU MELALUI DI BAWAH ARAS LONGKANG.

SYM	DESCRIPTION
— · — · —	STAINLESS STEEL PIPE


ƆK DIPLOMA AUTOMOTIF AADA
LP
PPU
Existing Road
MHS
OSD (OPEN SPACE)
32mmø STAINLESS STEEL PIPE LAID UNDERGROUND
H
TAPPING FROM WATER HYDRANT PIPELINE
MHS
280°35'00" (130.002 Kt)
SETBACK 6 METER
BOUNDRY LINE

LUKISAN SEBUT HARGA

NOTA

DRAFT TENDER DRAWING

PROJEK (Project)

CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV.	DATE	DESCRIPTION	BY

PEMILIK :

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BAHAGIAN BINAAN DAN SELENGGARAAN
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NO 21 JALAN MARA,
50609 KUALA LUMPUR

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TAJUK LUKISAN :
PLUMBING COLD WATER SYSTEM
- KEY PLAN, LOCATION PLAN & SITE PLAN

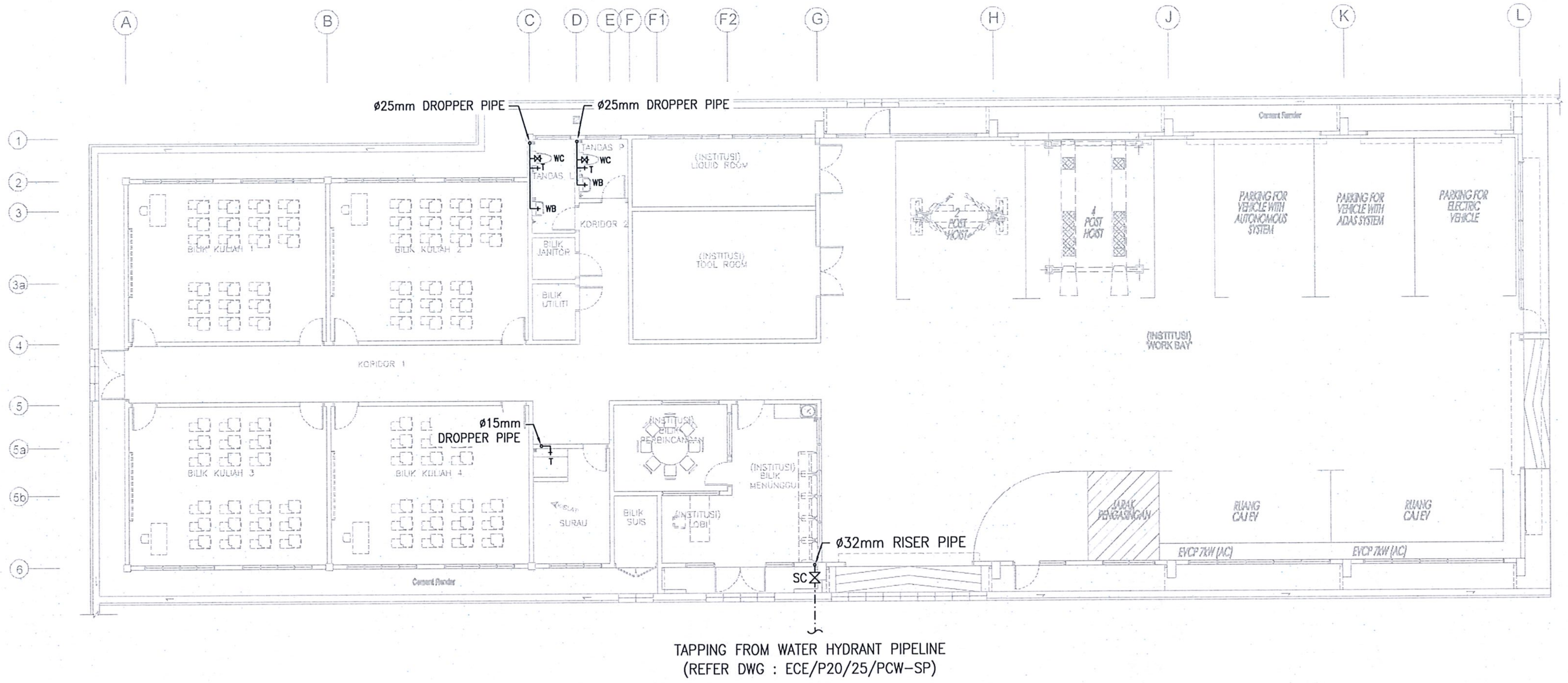
TARIKH : OGOS 2026	SKALA : 1:150
DILUKIS : MARDIAH	DISEMAK : NZL

NO. KONTRAK :

NO. PROJEK : ECE/P-20/26/	REVISION	SHEET NO.
NO. LUKISAN PCW-SP		01

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA–KERJA DITERUSKAN.

SYMBOL	DESCRIPTION
T	WATER TAP
WB	WASH BASIN
WC	WATER CLOSET
SC	STOP COCK
—·—·—	STAINLESS STEEL PIPE
———	uPVC CLASS 7



GROUND FLOOR PLAN

LUKISAN SEBUT HARGA

NOTA :

DRAFT TENDER DRAWING

PROJEK (Project)

CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV.	DATE	DESCRIPTION	BY

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TAJUK LUKISAN :

PLUMBING COLD WATER SYSTEM
- GROUND FLOOR PLAN

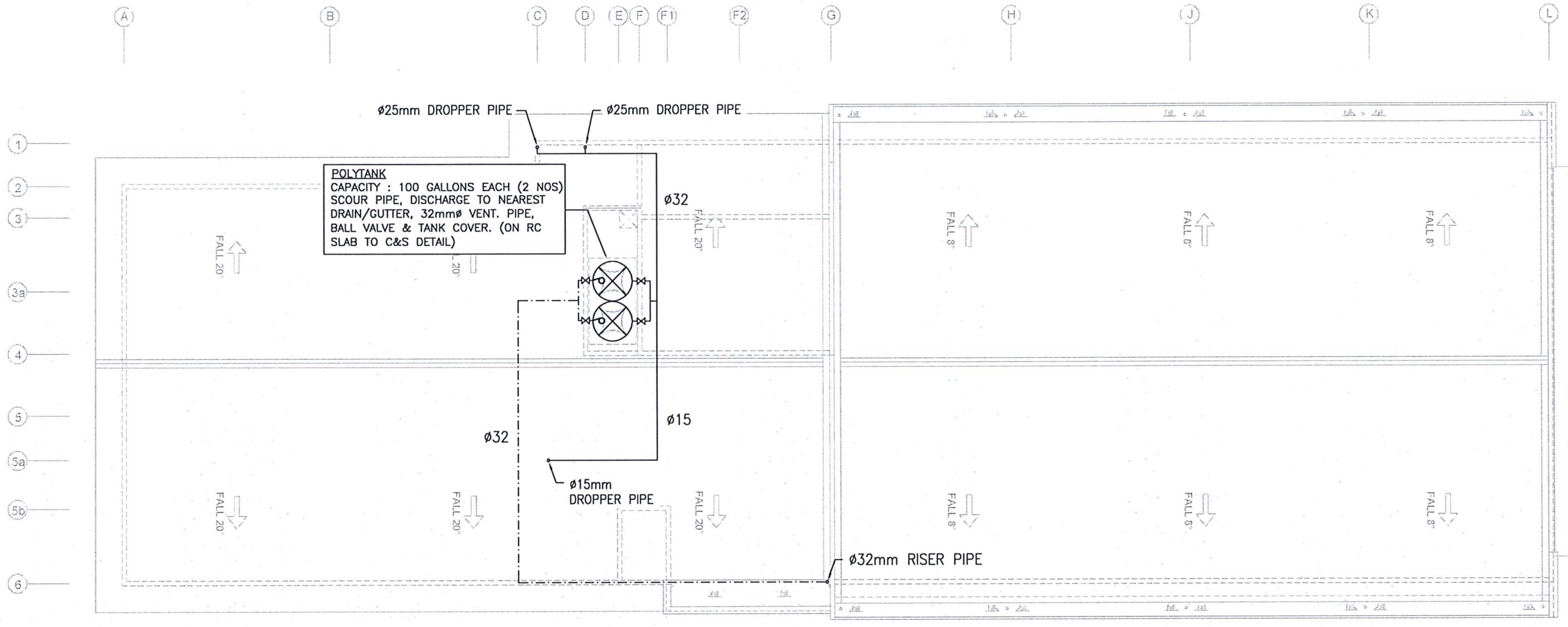
TARIKH : OGOS 2026	SKALA : 1:100
DILUKIS : MARDIAH	DISEMAK : NZL

NO. KONTRAK :

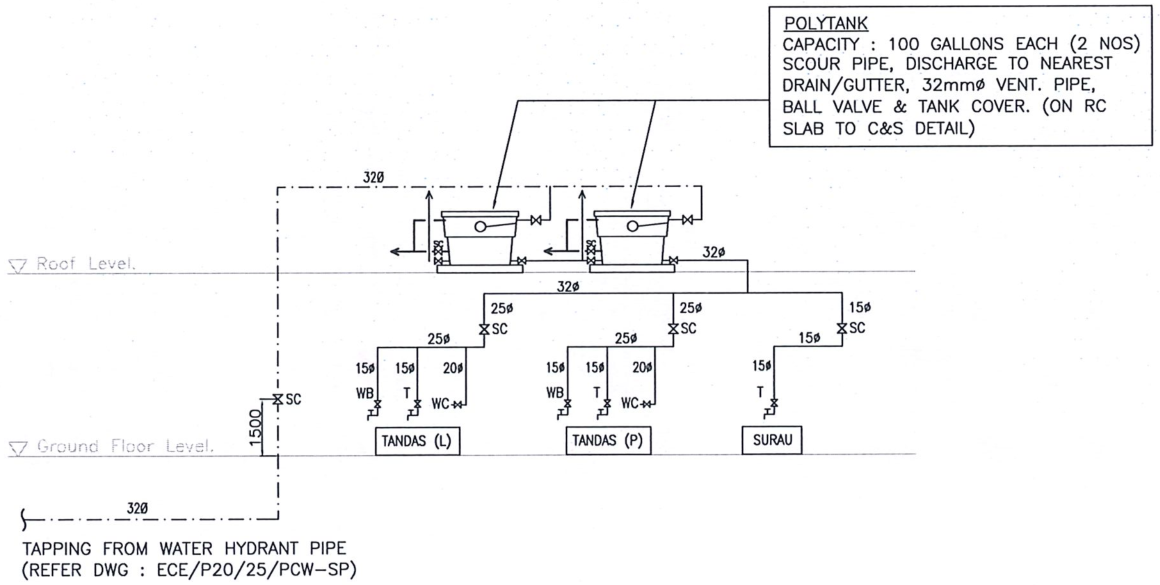
NO. PROJEK : ECE/P-20/26/	REVISION	SHEET NO.
NO. LUKISAN PCW-01		02

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.

SYMBOL	DESCRIPTION
T	WATER TAP
WB	WASH BASIN
WC	WATER CLOSET
SC	STOP COCK
—·—·—	STAINLESS STEEL PIPE
———	uPVC CLASS 7


A
B
C
D
E
F
F1
F2
G
H
J
K
L
1
2
3
3a
4
5
5a
5b
6
ø25mm DROPPER PIPE
ø25mm DROPPER PIPE
POLYTANK
CAPACITY : 100 GALLONS EACH (2 NOS) SCOUR PIPE, DISCHARGE TO NEAREST DRAIN/GUTTER, 32mmø VENT. PIPE, BALL VALVE & TANK COVER. (ON RC SLAB TO C&S DETAIL)
ø32
ø32
ø15
ø15mm DROPPER PIPE
ø32mm RISER PIPE
FALL 20°
FALL 8°

ROOF PLAN


POLYTANK
CAPACITY : 100 GALLONS EACH (2 NOS) SCOUR PIPE, DISCHARGE TO NEAREST DRAIN/GUTTER, 32mmø VENT. PIPE, BALL VALVE & TANK COVER. (ON RC SLAB TO C&S DETAIL)
32ø
32ø
32ø
Roof Level.
Ground Floor Level.
25ø
25ø
25ø
25ø
15ø
15ø
SC
15ø
15ø
20ø
WB
T
WC
TANDAS (L)
TANDAS (P)
SURAU
1500
32ø
TAPPING FROM WATER HYDRANT PIPE
(REFER DWG : ECE/P20/25/PCW–SP)

SCHEMATIC DIAGRAM

NOTA :

DRAFT TENDER DRAWING

PROJEK (Project)

CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV	DATE	DESCRIPTION	BY

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TAJUK LUKISAN :

PLUMBING COLD WATER SYSTEM
- ROOF PLAN & SCHEMATIC DIAGRAM

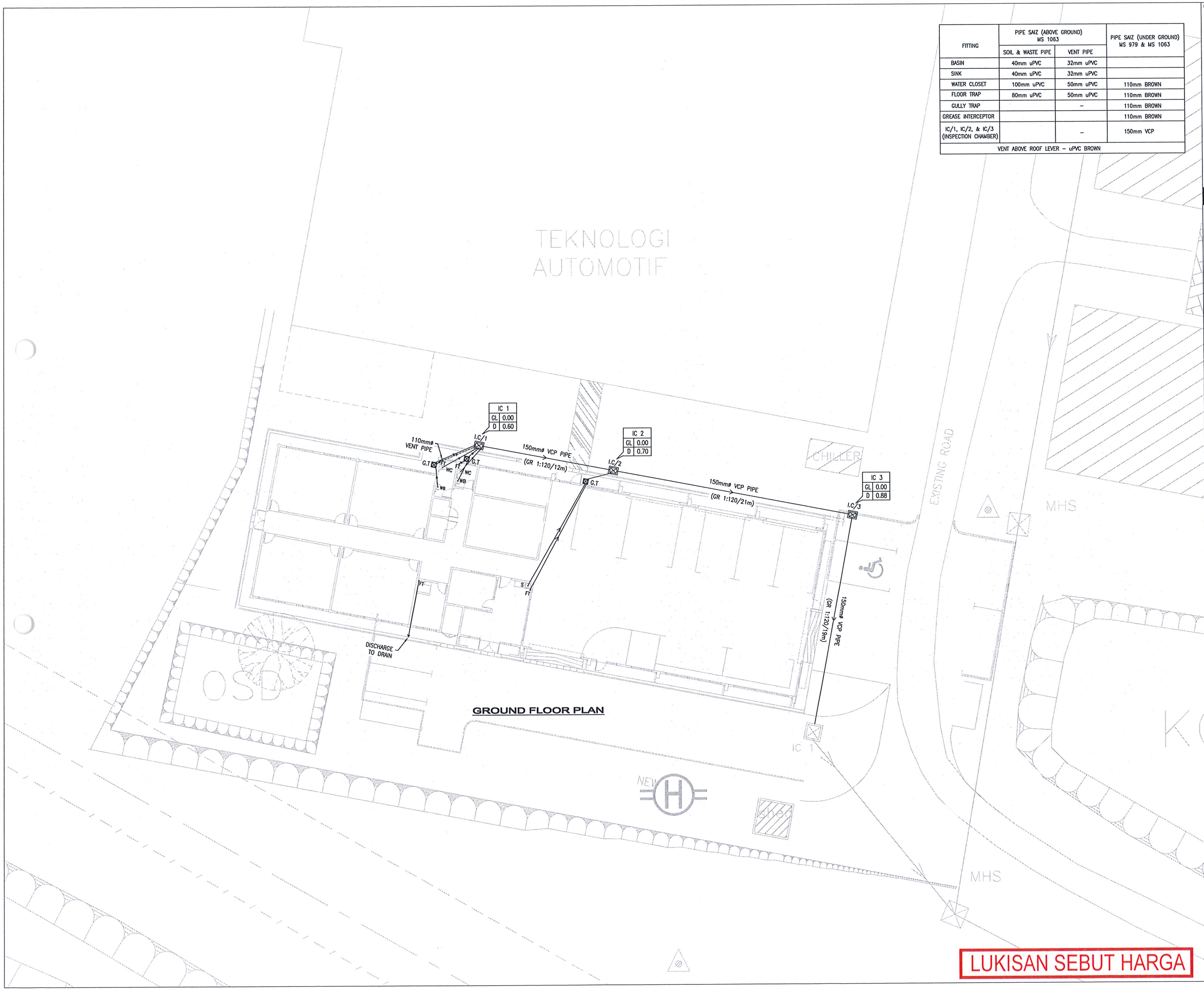
TARIKH : OGOS 2026	SKALA : 1:100
DILUKIS : MARDIAH	DISEMAK : NZL

NO. KONTRAK :

	REVISION	SHEET NO.
NO. PROJEK : ECE/P-20/26/		
NO. LUKISAN PCW-02		03

LUKISAN SEBUT HARGA

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA–KERJA DITERUSKAN.



GROUND FLOOR PLAN

FITTING	PIPE SAIZ (ABOVE GROUND) MS 1063		PIPE SAIZ (UNDER GROUND) MS 979 & MS 1063
	SOIL & WASTE PIPE	VENT PIPE	
BASIN	40mm uPVC	32mm uPVC	
SINK	40mm uPVC	32mm uPVC	
WATER CLOSET	100mm uPVC	50mm uPVC	110mm BROWN
FLOOR TRAP	80mm uPVC	50mm uPVC	110mm BROWN
GULLY TRAP		–	110mm BROWN
GREASE INTERCEPTOR			110mm BROWN
IC/1, IC/2, & IC/3 (INSPECTION CHAMBER)		–	150mm VCP
VENT ABOVE ROOF LEVER – uPVC BROWN			

LUKISAN SEBUT HARGA

NOTA :

DRAFT TENDER DRAWING

PROJEK (Project)

CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
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NOTA :

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TAJUK LUKISAN :

PLUMBING SANITARY SYSTEM
- GROUND FLOOR PLAN

TARIKH : OGOS 2026	SKALA : 1:100
DILUKIS : MARDIAH	DISEMAK : NZL
NO. KONTRAK :	

NO. PROJEK : ECE/P-20/26/	REVISION	SHEET NO.
NO. LUKISAN PS-01		04

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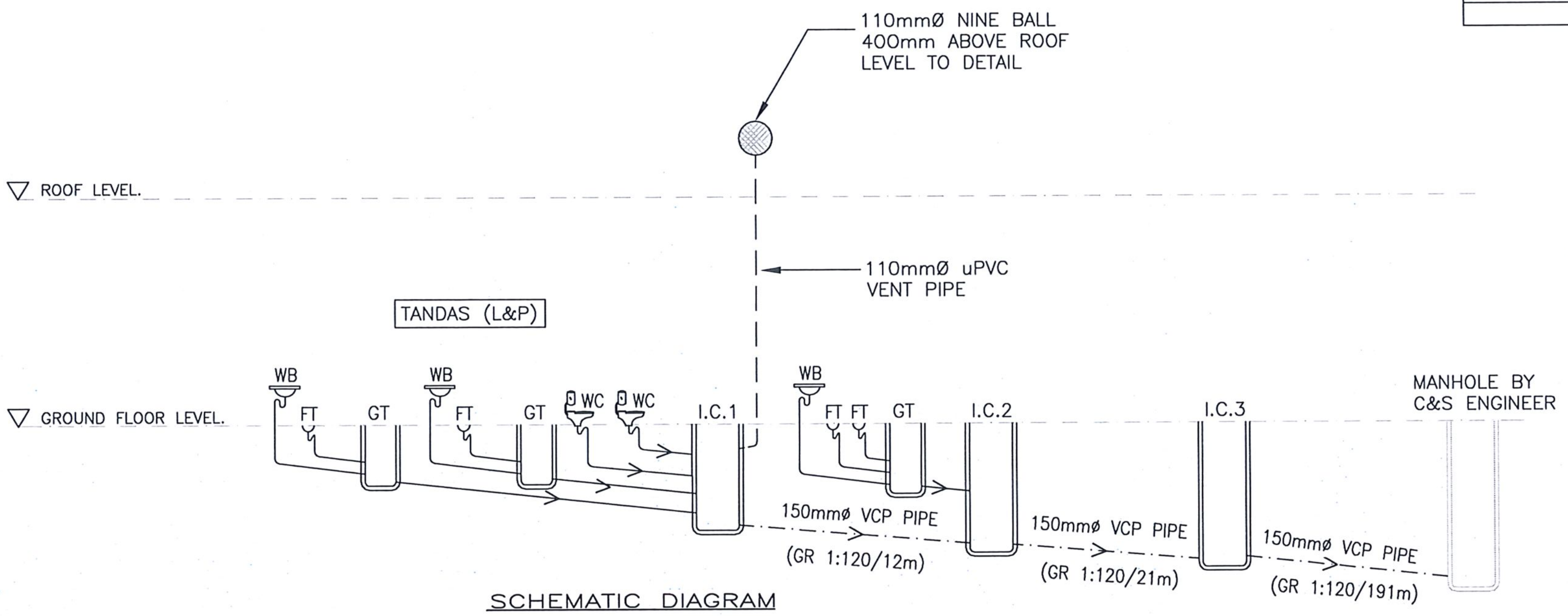
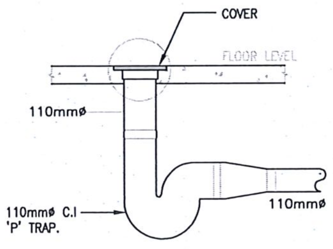
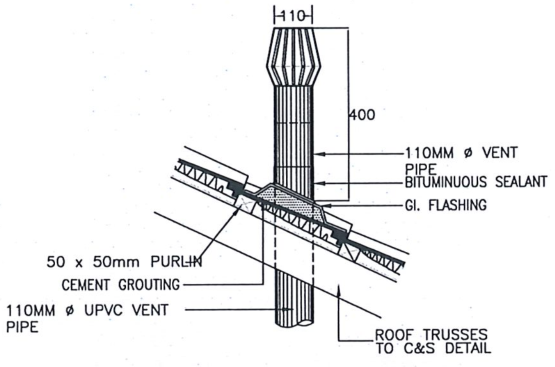
FITTING	PIPE SAIZ (ABOVE GROUND) MS 1063		PIPE SAIZ (UNDER GROUND) MS 979 & MS 1063
	SOIL & WASTE PIPE	VENT PIPE	
BASIN	40mm uPVC	32mm uPVC	
SINK	40mm uPVC	32mm uPVC	
WATER CLOSET	100mm uPVC	50mm uPVC	110mm BROWN
FLOOR TRAP	80mm uPVC	50mm uPVC	110mm BROWN
GULLY TRAP		–	110mm BROWN
GREASE INTERCEPTOR			110mm BROWN
IC/1, IC/2, & IC/3 (INSPECTION CHAMBER)		–	150mm VCP
VENT ABOVE ROOF LEVER – uPVC BROWN			



SCHEMATIC DIAGRAM

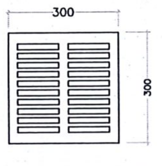


DETAIL OF FLOOR TRAP.



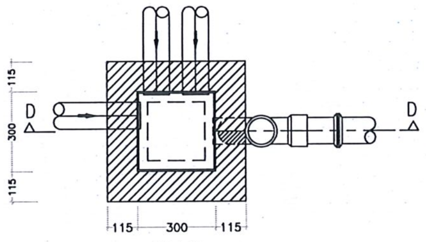
DETAIL 'A' : BUTIRAN PAIP PENGUDARAAN

N.T.S

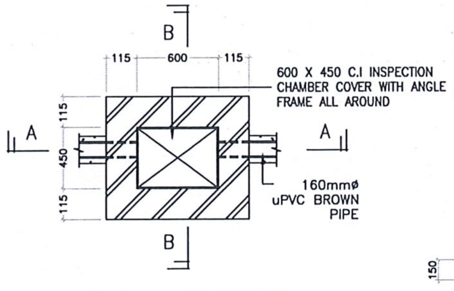


HOT DIP GALVANISED M.S.

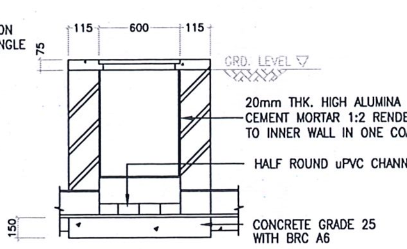
– FOR GULLY TRAP



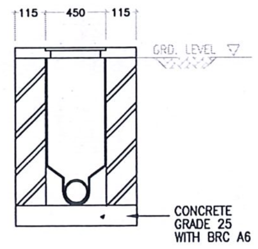
PLAN



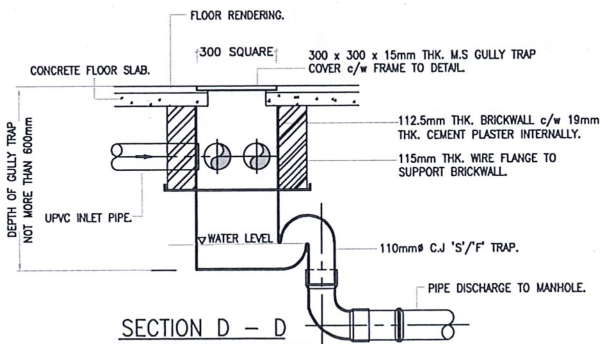
600 X 450 INSPECTION CHAMBER



SECTION A–A



SECTION B–B


FLOOR RENDERING.
300 SQUARE
300 x 300 x 15mm THK. M.S GULLY TRAP
COVER c/w FRAME TO DETAIL.
CONCRETE FLOOR SLAB.
112.5mm THK. BRICKWALL c/w 19mm
THK. CEMENT PLASTER INTERNALLY.
115mm THK. WIRE FLANGE TO
SUPPORT BRICKWALL.
DEPTH OF GULLY TRAP
NOT MORE THAN 600mm
UPVC INLET PIPE.
WATER LEVEL
110mmø C.J 'S'/'F' TRAP.
PIPE DISCHARGE TO MANHOLE.

SECTION D – D

DETAIL OF GULLY TRAP.

LUKISAN SEBUT HARGA

NOTA :

DRAFT TENDER DRAWING

PROJEK (Project)

CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV.	DATE	DESCRIPTION	BY

PEMILIK :

MAJLIS AMANAH RAKYAT
BAHAGIAN BINAAN DAN SELENGGARAAN
TINGKAT 11, IBU PEJABAT MARA,
NO 21 JALAN MARA,
50609 KUALA LUMPUR

JURUTERA M&E :

"I hereby certify that these works have been designed by me in accordance with sound engineering practice and that I take full responsibility for the design and proper performance of the same"

JURUTERA PROFESIONAL DENGAN PERAKUAN AMALAN
MEKANIKAL
IR. AHMAD ZAHIDI BIN ABDULLAH
MALAYSIA

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EMAIL : emechconsult@gmail.com

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JALAN TOK ADIS, KUALA IBAI, 20400
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TERENGGANU
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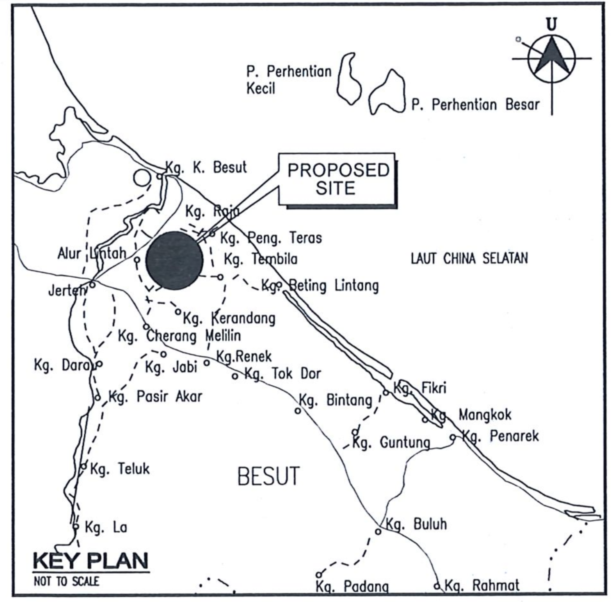
TAJUK LUKISAN :

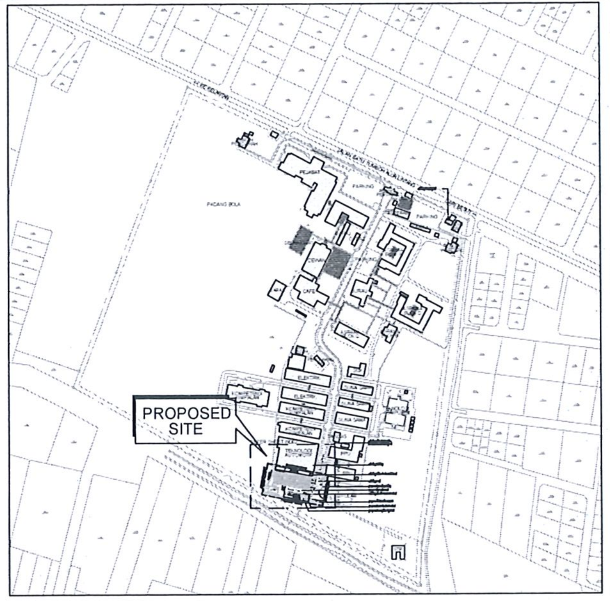
PLUMBING SANITARY SYSTEM
- SCHEMATIC DIAGRAM & STANDARD DETAIL

TARIKH : OGOS 2026
SKALA : NTS
DILUKIS : MARDIAH
DISEMAK : NZL
NO. KONTRAK :
NO. PROJEK : ECE/P-20/26/
REVISION
SHEET NO. 05
NO. LUKISAN PS-02

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.

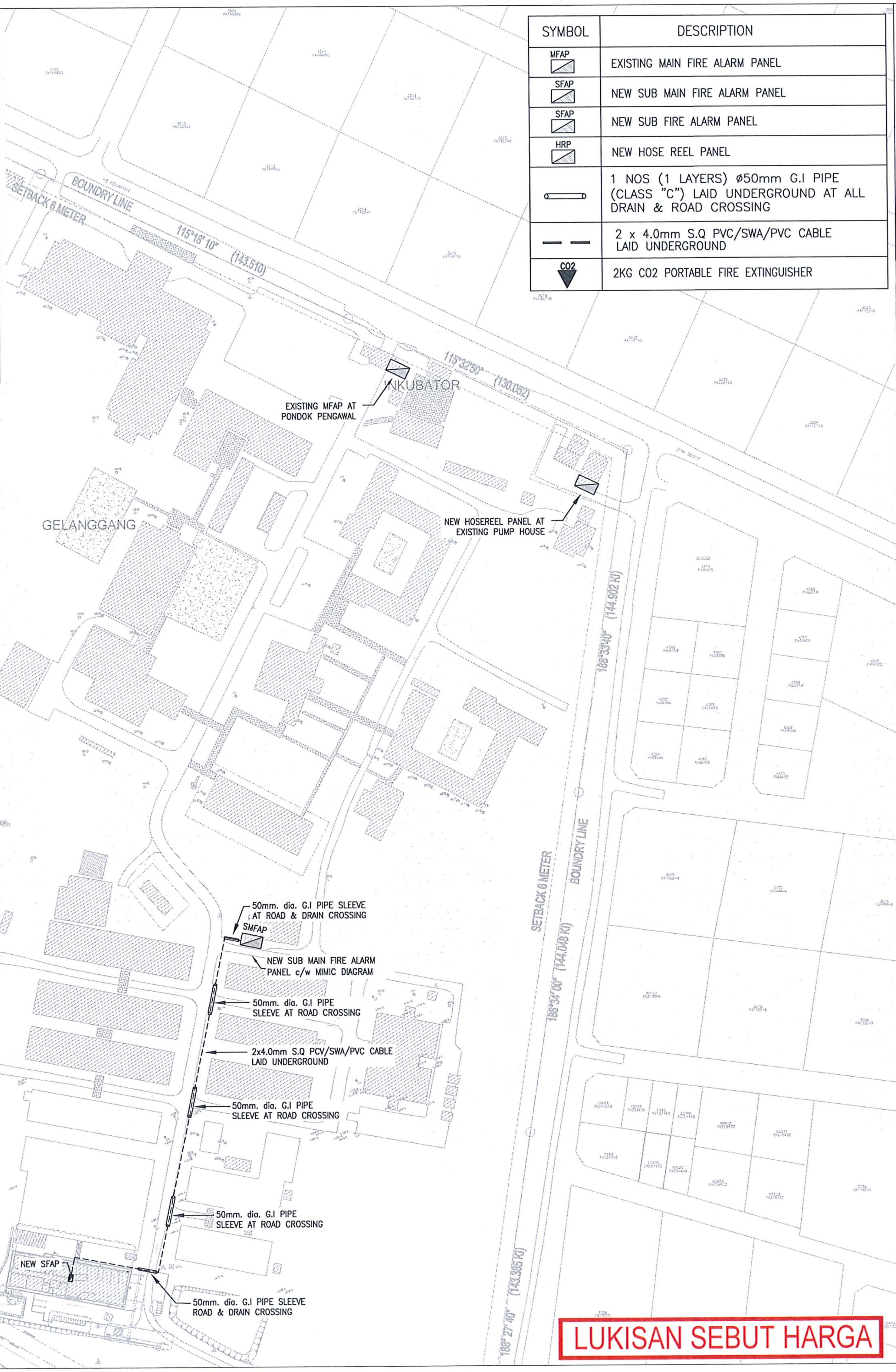


KEY PLAN



LOCATION PLAN

SYMBOL	DESCRIPTION
MFAP ▨	EXISTING MAIN FIRE ALARM PANEL
SFAP ▨	NEW SUB MAIN FIRE ALARM PANEL
SFAP ▨	NEW SUB FIRE ALARM PANEL
HRP ▨	NEW HOSE REEL PANEL
▭	1 NOS (1 LAYERS) ø50mm G.I PIPE (CLASS "C") LAID UNDERGROUND AT ALL DRAIN & ROAD CROSSING
— —	2 x 4.0mm S.Q PVC/SWA/PVC CABLE LAID UNDERGROUND
CO2 ▼	2KG CO2 PORTABLE FIRE EXTINGUISHER


SETBACK 6 METER
BOUNDRY LINE
115°18'10" (143.510)
115°32'50" (130.052)
INKUBATOR
EXISTING MFAP AT PONDOK PENGAWAL
GELANGGANG
NEW HOSEREEL PANEL AT EXISTING PUMP HOUSE
188°33'40" (144.502 K)
21°00'00" (129.733)
SETBACK 6 METER
21°00'00" (140.073)
20°15'00" (23.001)
50mm. dia. G.I PIPE SLEEVE AT ROAD & DRAIN CROSSING
SMFAP
NEW SUB MAIN FIRE ALARM PANEL c/w MIMIC DIAGRAM
50mm. dia. G.I PIPE SLEEVE AT ROAD CROSSING
2x4.0mm S.Q PCV/SWA/PVC CABLE LAID UNDERGROUND
50mm. dia. G.I PIPE SLEEVE AT ROAD CROSSING
50mm. dia. G.I PIPE SLEEVE AT ROAD CROSSING
NEW SFAP
50mm. dia. G.I PIPE SLEEVE ROAD & DRAIN CROSSING
SETBACK 6 METER
BOUNDRY LINE
188°34'00" (144.049 K)
188°27'40" (143.385 K)

LUKISAN SEBUT HARGA

NOTA :

DRAFT TENDER DRAWING

PROJEK (Project)

CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV.	DATE	DESCRIPTION	BY

PEMILIK :

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EMAIL : pub.wfasb@gmail.com

TAJUK LUKISAN :

FIRE PROTECTION SYSTEM
- KEY PLAN, LOCATION PLAN & SITE PLAN

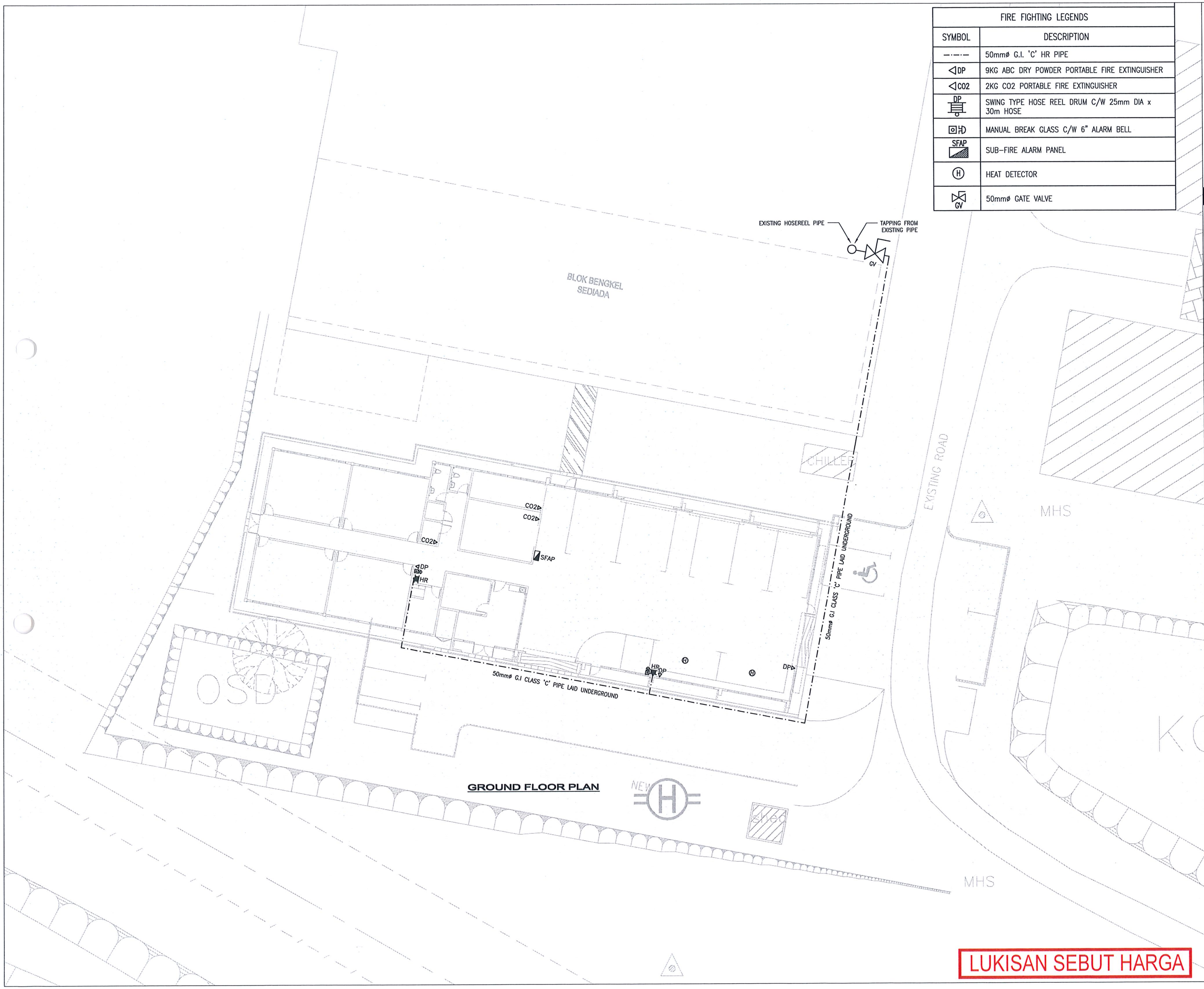
TARIKH : OGOS 2026	SKALA : 1:1000
DILUKIS : MARDIAH	DISEMAK : NZL
NO. KONTRAK :	

NO. PROJEK : ECE/P-20/26/	REVISION	SHEET NO.
NO. LUKISAN FP-SP		06

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.

FIRE FIGHTING LEGENDS

SYMBOL	DESCRIPTION
—·—·—	50mmø G.I. 'C' HR PIPE
◁DP	9KG ABC DRY POWDER PORTABLE FIRE EXTINGUISHER
◁CO2	2KG CO2 PORTABLE FIRE EXTINGUISHER
DP	SWING TYPE HOSE REEL DRUM C/W 25mm DIA x 30m HOSE
⊡Ð	MANUAL BREAK GLASS C/W 6" ALARM BELL
SFAP ▨	SUB-FIRE ALARM PANEL
Ⓗ	HEAT DETECTOR
GV	50mmø GATE VALVE


EXISTING HOSEREEL PIPE
TAPPING FROM EXISTING PIPE
GV
BLOK BENGKEL SEDIADA
CHILLER
EXISTING ROAD
MHS
50mmø G.I CLASS 'C' PIPE LAID UNDERGROUND
CO2
CO2
CO2
SFAP
DP
HR
HR
DP
DP
50mmø G.I CLASS 'C' PIPE LAID UNDERGROUND
OSD
NEW
shed
MHS
K

GROUND FLOOR PLAN

LUKISAN SEBUT HARGA

NOTA :

DRAFT TENDER DRAWING

PROJEK (Project)

CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV	DATE	DESCRIPTION	BY

PEMILIK :

MAJLIS AMANAH RAKYAT
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NO 21 JALAN MARA
50609 KUALA LUMPUR

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JURUTERA PROFESIONAL DENGAN PERAKUAN AMALAN MEKANIKAL IR. AHMAD ZAWAWI BIN ABDULLAH MALAYSIA

Ir. AHMAD ZAWAWI BIN ABDULLAH
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EMAIL : pub.wfasb@gmail.com

TAJUK LUKISAN :

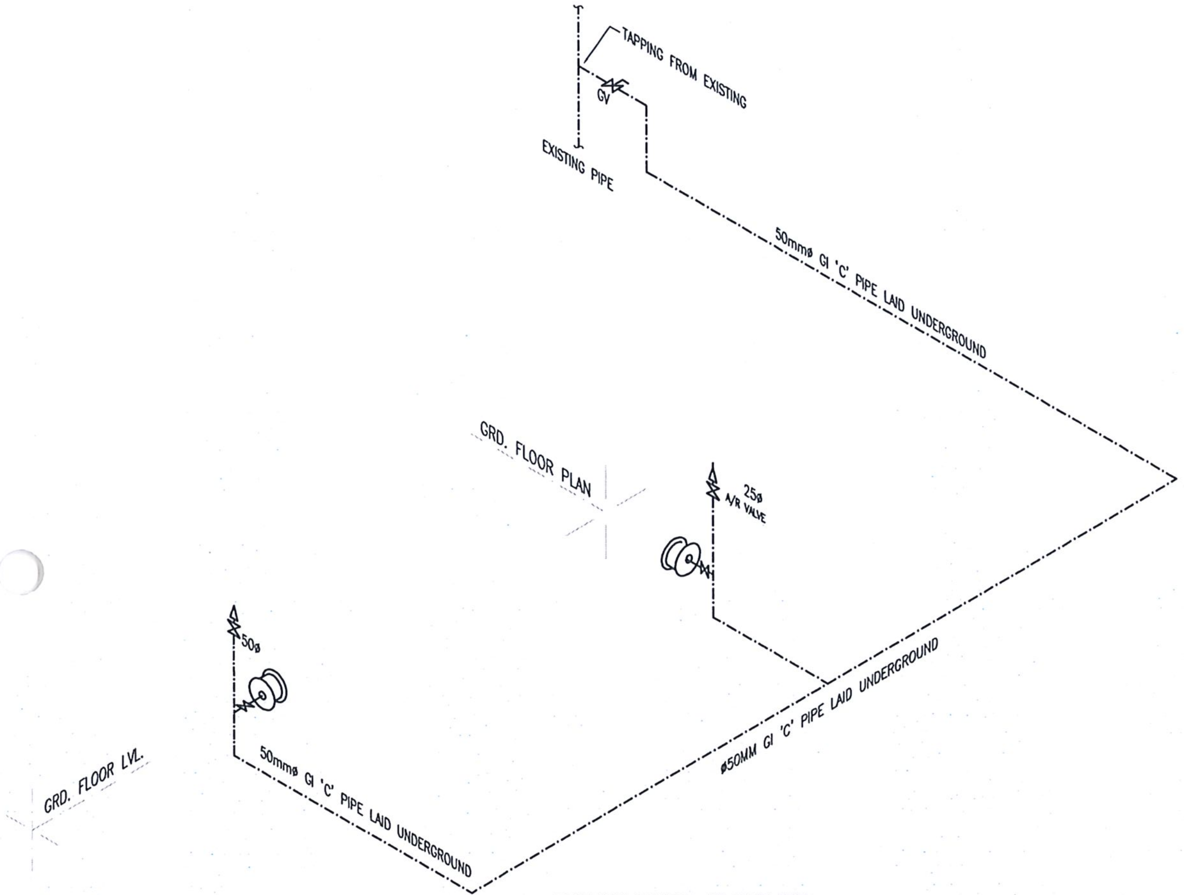
FIRE PROTECTION SYSTEM
- GROUND FLOOR PLAN

TARIKH : OGOS 2026	SKALA : 1:150
DILUKIS : MARDIAH	DISEMAK : NZL

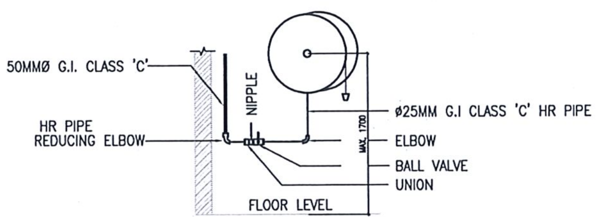
NO. KONTRAK :

NO. PROJEK : ECE/P-20/26/	REVISION	SHEET NO.
NO. LUKISAN FP-01		07

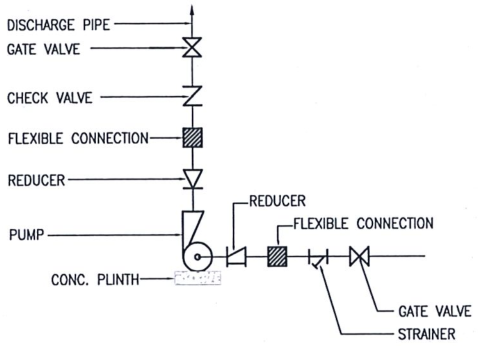
HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.


TAPPING FROM EXISTING
GV
EXISTING PIPE
50mmø GI 'C' PIPE LAID UNDERGROUND
GRD. FLOOR PLAN
25ø A/R VALVE
ø50MM GI 'C' PIPE LAID UNDERGROUND
50ø
GRD. FLOOR LVL.
50mmø GI 'C' PIPE LAID UNDERGROUND

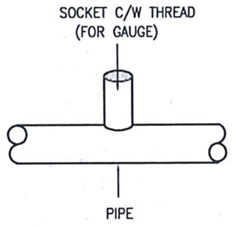
SCHEMATIC DIAGRAM OF HOSE REEL



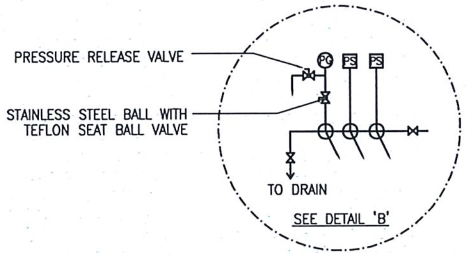
TYPICAL DETAIL OF HOSE REEL CONNECTION
N.T.S



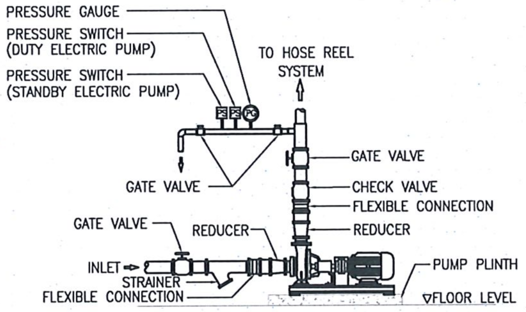
TYPICAL DETAIL OF PUMP CONNECTION
N.T.S.



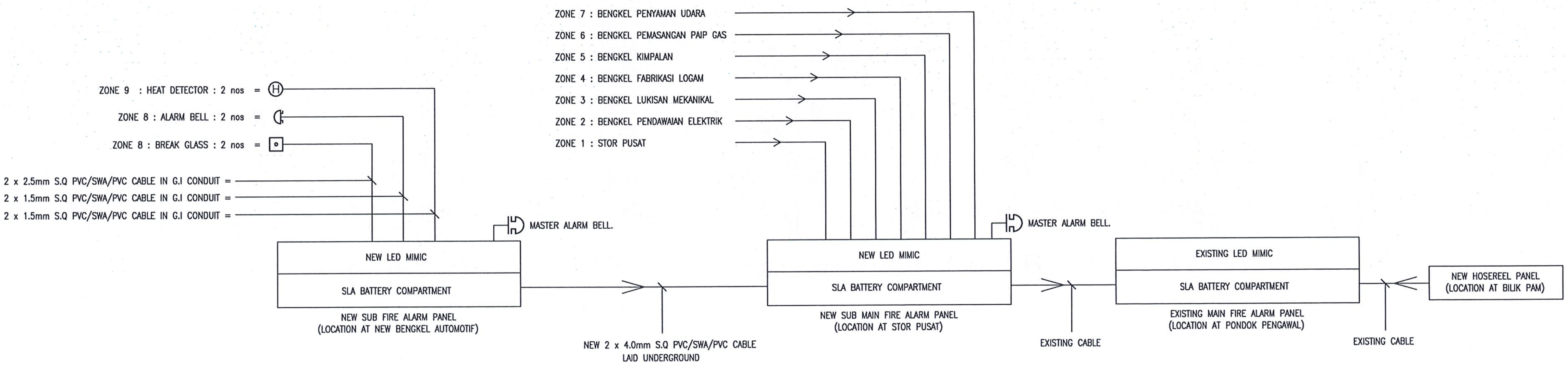
DETAIL 'B'
N.T.S



DETAIL 'A'
N.T.S



HOSE REEL PUMP DETAIL
N.T.S


ZONE 7 : BENGKEL PENYAMAN UDARA
ZONE 6 : BENGKEL PEMASANGAN PAIP GAS
ZONE 5 : BENGKEL KIMPALAN
ZONE 4 : BENGKEL FABRIKASI LOGAM
ZONE 3 : BENGKEL LUKISAN MEKANIKAL
ZONE 2 : BENGKEL PENDAWAIAN ELEKTRIK
ZONE 1 : STOR PUSAT
ZONE 9 : HEAT DETECTOR : 2 nos = H
ZONE 8 : ALARM BELL : 2 nos =
ZONE 8 : BREAK GLASS : 2 nos =
2 x 2.5mm S.Q PVC/SWA/PVC CABLE IN G.I CONDUIT =
2 x 1.5mm S.Q PVC/SWA/PVC CABLE IN G.I CONDUIT =
2 x 1.5mm S.Q PVC/SWA/PVC CABLE IN G.I CONDUIT =
MASTER ALARM BELL.
NEW LED MIMIC
SLA BATTERY COMPARTMENT
NEW SUB FIRE ALARM PANEL
(LOCATION AT NEW BENGKEL AUTOMOTIF)
NEW 2 x 4.0mm S.Q PVC/SWA/PVC CABLE
LAID UNDERGROUND
MASTER ALARM BELL.
NEW LED MIMIC
SLA BATTERY COMPARTMENT
NEW SUB MAIN FIRE ALARM PANEL
(LOCATION AT STOR PUSAT)
EXISTING CABLE
EXISTING LED MIMIC
SLA BATTERY COMPARTMENT
EXISTING MAIN FIRE ALARM PANEL
(LOCATION AT PONDOK PENGAWAL)
EXISTING CABLE
NEW HOSEREEL PANEL
(LOCATION AT BILIK PAM)

SCHEMATIC DIAGRAM OF FIRE ALARM SYSTEM
N.T.S

LUKISAN SEBUT HARGA

NOTA :

DRAFT TENDER DRAWING

PROJEK (Project)

CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV	DATE	DESCRIPTION	BY

PEMILIK :

MAJLIS AMANAH RAKYAT
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50609 KUALA LUMPUR.

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EMAIL : pub.wfasb@gmail.com

TAJUK LUKISAN :

FIRE PROTECTION SYSTEM
- SCHEMATIC DIAGRAM

TARIKH : OGOS 2026	SKALA : NTS
DILUKIS : MARDIAH	DISEMAK : NZL
NO. KONTRAK :	

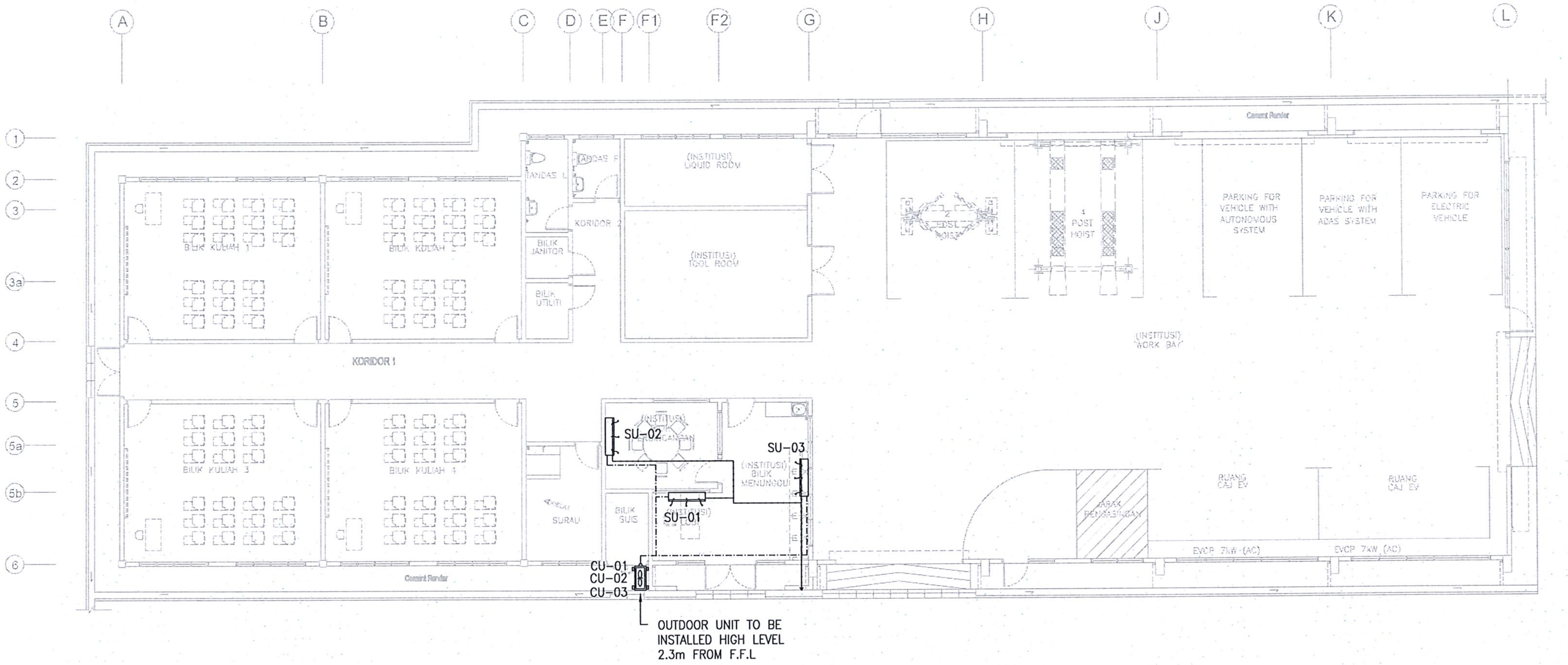
NO. PROJEK : ECE/P-20/26/	REVISION	SHEET NO.
NO. LUKISAN FP-02		08

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.

NOTA :

LEGENDS

SYMBOL	DESCRIPTION
	WALL MOUNTED (INDOOR UNIT)
	OUTDOOR UNIT C/W ANTI-CORROSIVE PROTECTION
-·-·-·-	REFRIGERENT PIPE
—○—>	DRAIN PIPE



OUTDOOR UNIT TO BE INSTALLED HIGH LEVEL 2.3m FROM F.F.L

GROUND FLOOR PLAN

SCHEDULE OF AIR-CONDITIONING SYSTEM (SPLIT UNIT) FOR GROUND FLOOR PLAN

LOCATION	(INDOOR)	(OUTDOOR)	(Btu/hr)	TYPE OF UNITS
LOBI	SU-01	CU-01	9,500	WALL MOUNTED
BILIK PERBINCANGAN	SU-02	CU-02	13,000	WALL MOUNTED
BILIK MENUNGGU	SU-03	CU-03	18,000	WALL MOUNTED

LUKISAN SEBUT HARGA

NOTA :

DRAFT TENDER DRAWING

PROJEK (Project)

CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV.	DATE	DESCRIPTION	BY

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Fax: 09-6223263

JURUUKUR BAHAN :

PERUNDING UKUR BAHAN WFA SDN BHD
PT1898, TINGKAT 1 PERKEDAIAN KP PERDANA KUBANG PARIT, 20050 KUALA TERENGGANU, TERENGGANU.
TEL : 09-626 1898 FAX : 09-626 1898
EMAIL : pub.wfasb@gmail.com

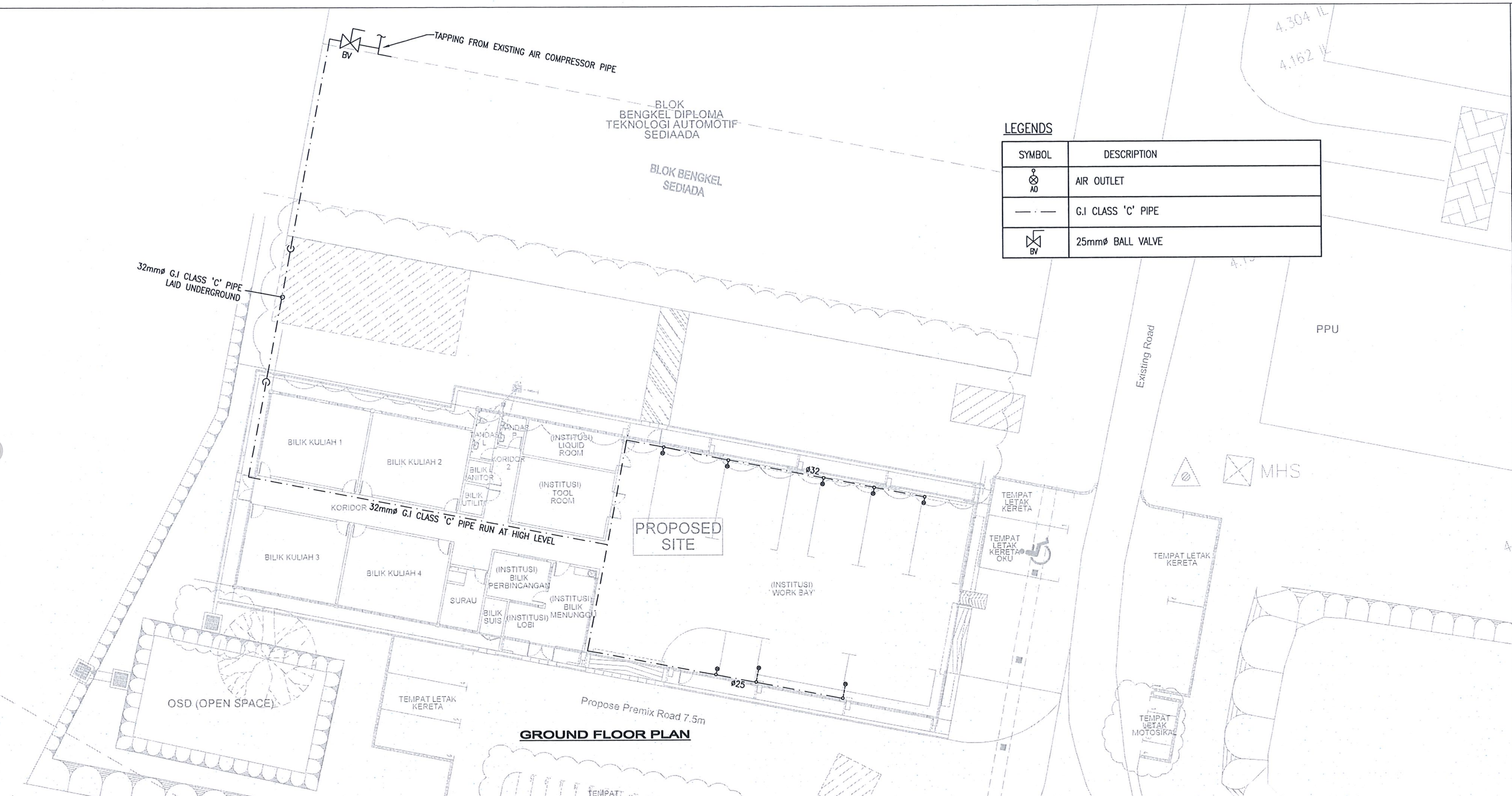
TAJUK LUKISAN :

AIRCONDITIONING SYSTEM
- GROUND FLOOR PLAN

TARIKH : OGOS 2026	SKALA : **1:100**
DILUKIS : MARDIAH	DISEMAK : NZL
NO. KONTRAK :	

	REVISION	SHEET NO.
NO. PROJEK : ECE/P-20/26/		
NO. LUKISAN AC-01		09

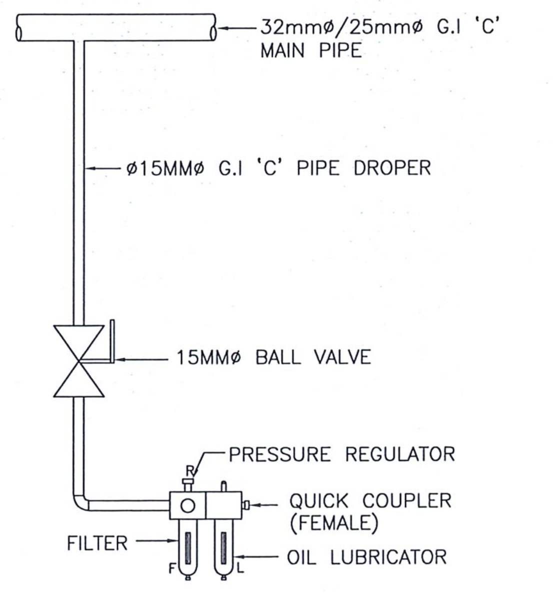
HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.



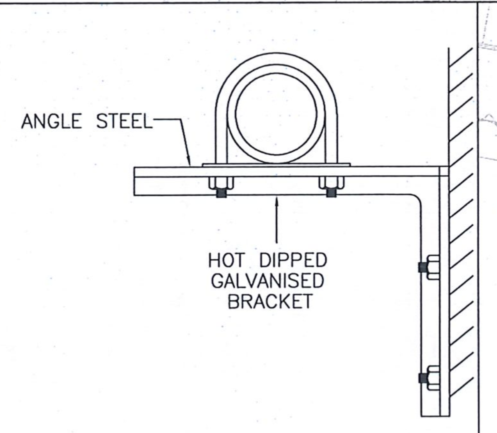
GROUND FLOOR PLAN

LEGENDS

SYMBOL	DESCRIPTION
⊗ AO	AIR OUTLET
—·—	G.I CLASS 'C' PIPE
⋈ BV	25mmø BALL VALVE



DETAIL OF AIR OUTLET
N.T.S.



COMPRESSED AIR PIPE MOUNTED ON WALL USING HOT DIPPED GALVANISED BRACKET AT EVERY 2 METER INTERVAL
N.T.S.

3.563 IL
2.742 IL
LP

LUKISAN SEBUT HARGA

NOTA :

DRAFT TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV	DATE	DESCRIPTION	BY

PEMILIK :

MAJLIS AMANAH RAKYAT
BAHAGIAN BINAAN DAN SELENGGARAAN
TINGKAT 11, IBU PEJABAT MARA,
NO 21 JALAN MARA,
50609 KUALA LUMPUR

JURUTERA M&E :
"I hearby certify that these works have been designed by me in accordance with sound engineering practice and that I Take full responsibility for the design and proper performance of the same"

JURUTERA PROFESIONAL DENGAN AMALAN MEKANIKAL IR. AHMAD ZAWAWI BIN ABDULLAH MALAYSIA

Ir. AHMAD ZAWAWI BIN ABDULLAH
JURUTERA M&E

EMECH CONSULTING ENGINEERS
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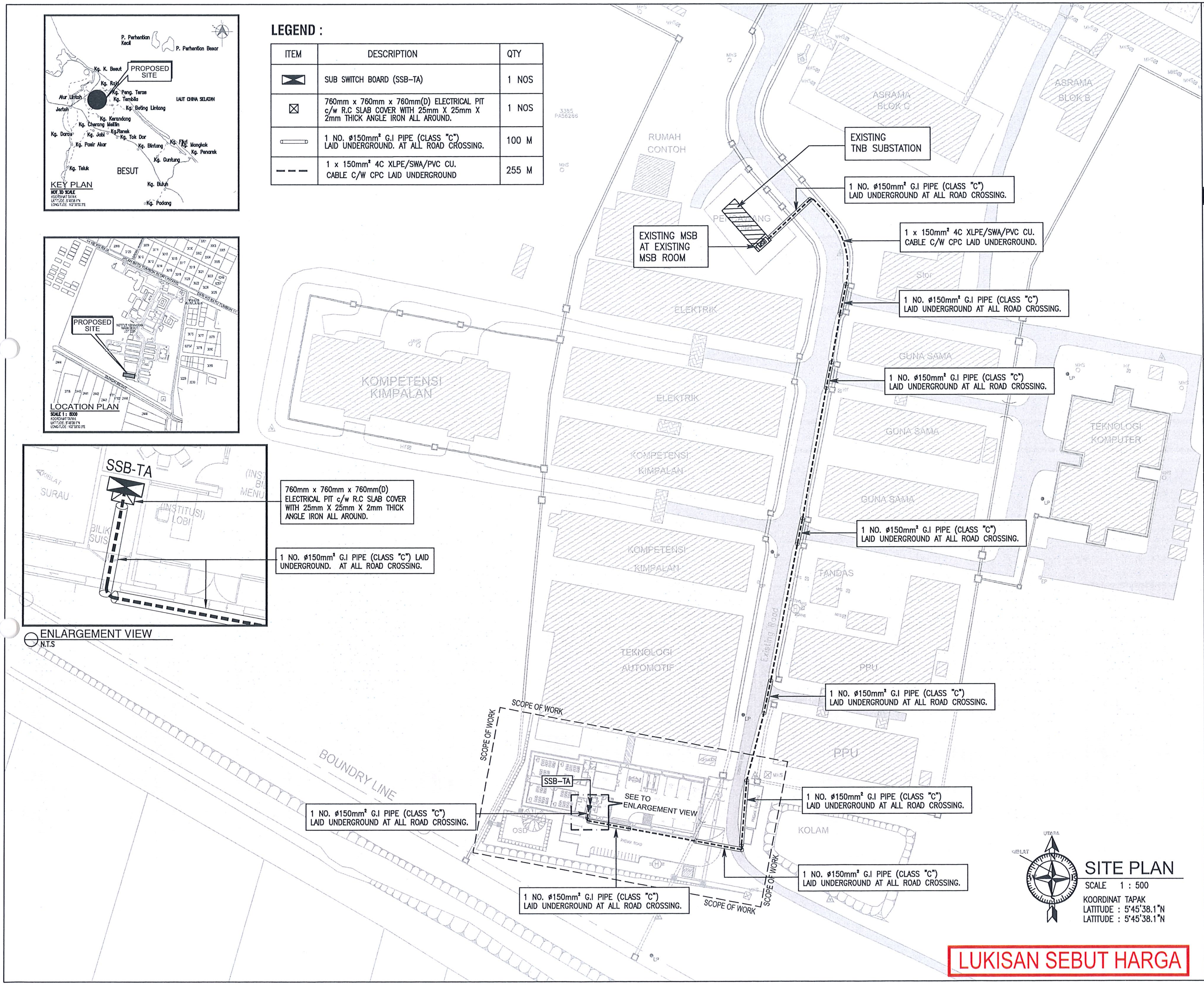
TAJUK LUKISAN :
AIR COMPRESSOR SYSTEM
- GROUND FLOOR PLAN

TARIKH : OGOS 2026	SKALA : 1:150
DILUKIS : MARDIAH	DISEMAK : NZL
NO. KONTRAK :	

	REVISION	SHEET NO.
NO. PROJEK : ECE/P-20/26/		
NO. LUKISAN ACOM-01		10

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.


P. Perhentian Kecil
P. Perhentian Besar
PROPOSED SITE
Kg. K. Besut
LAUT CHINA SELATAN
Kg. Tembila
Kg. Beting Lintang
Kg. Keruak
Kg. Bintang
Kg. Gunlung
Kg. Teluk
BESUT
Kg. Bukit
Kg. Padang
KEY PLAN
NOT TO SCALE
PROPOSED SITE
LOCATION PLAN
SCALE 1 : 5000
SSB-TA
SURAU
BILIK SUIS
(INSTITUSI) LOBI
760mm x 760mm x 760mm(D) ELECTRICAL PIT c/w R.C SLAB COVER WITH 25mm X 25mm X 2mm THICK ANGLE IRON ALL AROUND.
1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND. AT ALL ROAD CROSSING.
ENLARGEMENT VIEW
N.T.S
RUMAH CONTOH
ASRAMA BLOK C
ASRAMA BLOK B
EXISTING TNB SUBSTATION
1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND AT ALL ROAD CROSSING.
EXISTING MSB AT EXISTING MSB ROOM
1 x 150mm² 4C XLPE/SWA/PVC CU. CABLE C/W CPC LAID UNDERGROUND.
1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND AT ALL ROAD CROSSING.
ELEKTRIK
KOMPETENSI KIMPALAN
ELEKTRIK
GUNA SAMA
1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND AT ALL ROAD CROSSING.
GUNA SAMA
TEKNOLOGI KOMPUTER
KOMPETENSI KIMPALAN
GUNA SAMA
1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND AT ALL ROAD CROSSING.
KOMPETENSI KIMPALAN
TANDAS
TEKNOLOGI AUTOMOTIF
Existing Road
PPU
1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND AT ALL ROAD CROSSING.
PPU
SCOPE OF WORK
BOUNDRY LINE
SSB-TA
SEE TO ENLARGEMENT VIEW
1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND AT ALL ROAD CROSSING.
1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND AT ALL ROAD CROSSING.
KOLAM
1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND AT ALL ROAD CROSSING.
1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND AT ALL ROAD CROSSING.
UTARA
SITE PLAN
SCALE 1 : 500
KOORDINAT TAPAK
LATITUDE : 5°45'38.1"N
LATITUDE : 5°45'38.1"N

LEGEND :

ITEM	DESCRIPTION	QTY
⊠	SUB SWITCH BOARD (SSB-TA)	1 NOS
☒	760mm x 760mm x 760mm(D) ELECTRICAL PIT c/w R.C SLAB COVER WITH 25mm X 25mm X 2mm THICK ANGLE IRON ALL AROUND.	1 NOS
▭	1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND. AT ALL ROAD CROSSING.	100 M
- - -	1 x 150mm² 4C XLPE/SWA/PVC CU. CABLE C/W CPC LAID UNDERGROUND	255 M

LUKISAN SEBUT HARGA

NOTA :

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV:	DATE	DESCRIPTION	BY

PEMILIK :
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NO 21, JALAN MARA,
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TEL : 09-626 1898 FAX : 09-626 1898
EMAIL : pub.wfasb@gmail.com

TAJUK LUKISAN :
ELECTRICAL SYSTEM
- KEY PLAN, LOCATION PLAN & SITE PLAN

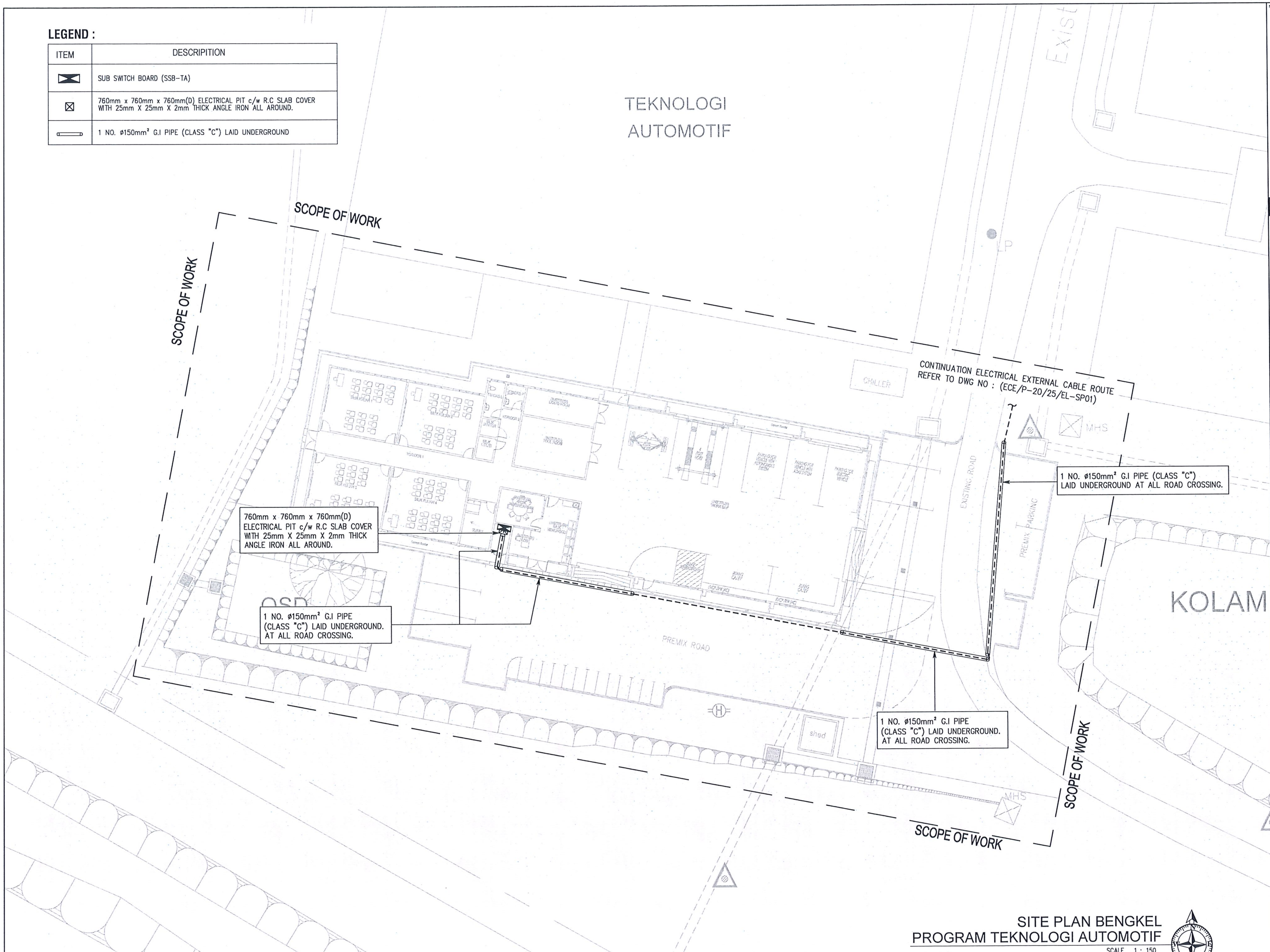
TARIKH : OGOS 2026	SKALA : 1: 500
DILUKIS : MHS	DISEMAK : HSN
NO. KONTRAK :	

NO. PROJEK : ECE/P-20/25	REVISION	SHEET NO.
NO. LUKISAN EL-SP01	00	01

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.

LEGEND :

ITEM	DESCRIPITION
⧓	SUB SWITCH BOARD (SSB-TA)
⊠	760mm x 760mm x 760mm(D) ELECTRICAL PIT c/w R.C SLAB COVER WITH 25mm X 25mm X 2mm THICK ANGLE IRON ALL AROUND.
▭	1 NO. ø150mm² G.I PIPE (CLASS "C") LAID UNDERGROUND



CONTINUATION ELECTRICAL EXTERNAL CABLE ROUTE
REFER TO DWG NO : (ECE/P-20/25/EL-SP01)

1 NO. ø150mm² G.I PIPE (CLASS "C")
LAID UNDERGROUND AT ALL ROAD CROSSING.

760mm x 760mm x 760mm(D)
ELECTRICAL PIT c/w R.C SLAB COVER
WITH 25mm X 25mm X 2mm THICK
ANGLE IRON ALL AROUND.

1 NO. ø150mm² G.I PIPE
(CLASS "C") LAID UNDERGROUND.
AT ALL ROAD CROSSING.

1 NO. ø150mm² G.I PIPE
(CLASS "C") LAID UNDERGROUND.
AT ALL ROAD CROSSING.

SITE PLAN BENGKEL
PROGRAM TEKNOLOGI AUTOMOTIF

SCALE 1 : 150

KOORDINAT TAPAK
LATITUDE : 5°45'38.1"N
LATITUDE : 5°45'38.1"N

MAKLUMAT PERIHAL TAPAK
JENIS DAN NO. HAKMILIK : PN 2183
NOMBOR LOT : 3385
MUKIM : KAMPUNG RAJA
LUAS : 20800 METER PERSEGI
DAERAH : BESUT
NO SYIT PIAWAI : 3-D
TARAF PEGANGAN : PAJAKAN 60 TAHUN
TARIKH LUPUT PAJAKAN : 02 JUN 2044
TARIKH DAFTAR : 02 NOVEMBER 1988
CUKAI TANAH : RM25,066.00

LUKISAN SEBUT HARGA

NOTA :

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV:	DATE	DESCRIPTION	BY

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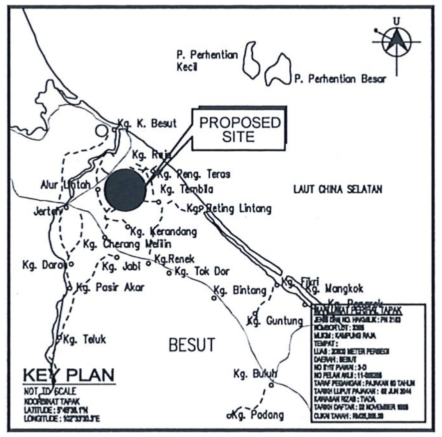
TEL : 09-626 1898 FAX : 09-626 1898
EMAIL : pub.wfasb@gmail.com

TAJUK LUKISAN :
ELECTRICAL SYSTEM
SITE PLAN BENGKEL PROGRAM TEKNOLOGI AUTOMOTIF
- EXTERNAL UNDERGROUND CABLE ROUTE

TARIKH : OGOS 2026	SKALA : 1: 150
DILUKIS : MHS	DISEMAK : HSN
NO. KONTRAK :	

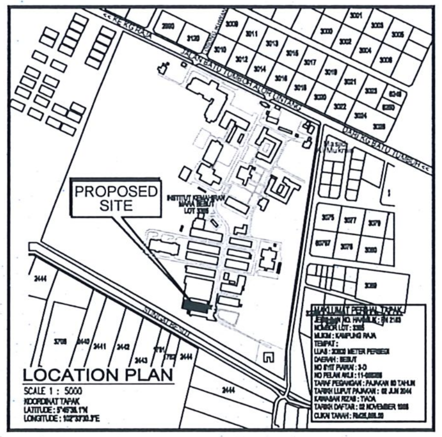
NO. PROJEK : ECE/P-20/25	REVISION	SHEET NO.
NO. LUKISAN EL-SP02	00	02

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.



KEY PLAN

NOT TO SCALE
KOORDINAT TAPAK
LATITUDE : 5°49'38.1"N
LONGITUDE : 102°33'30.3"E

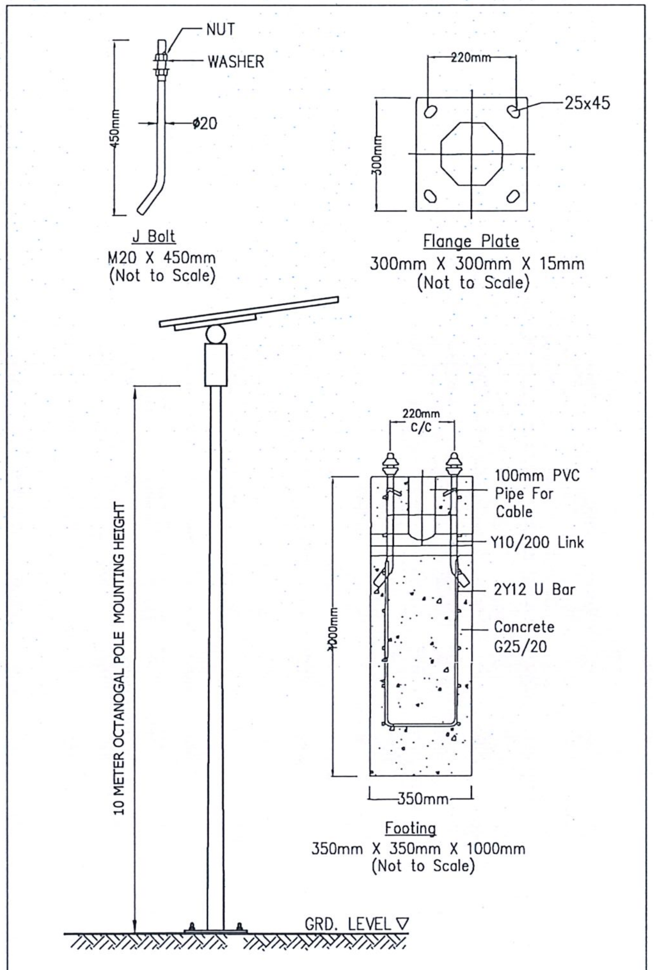


LOCATION PLAN

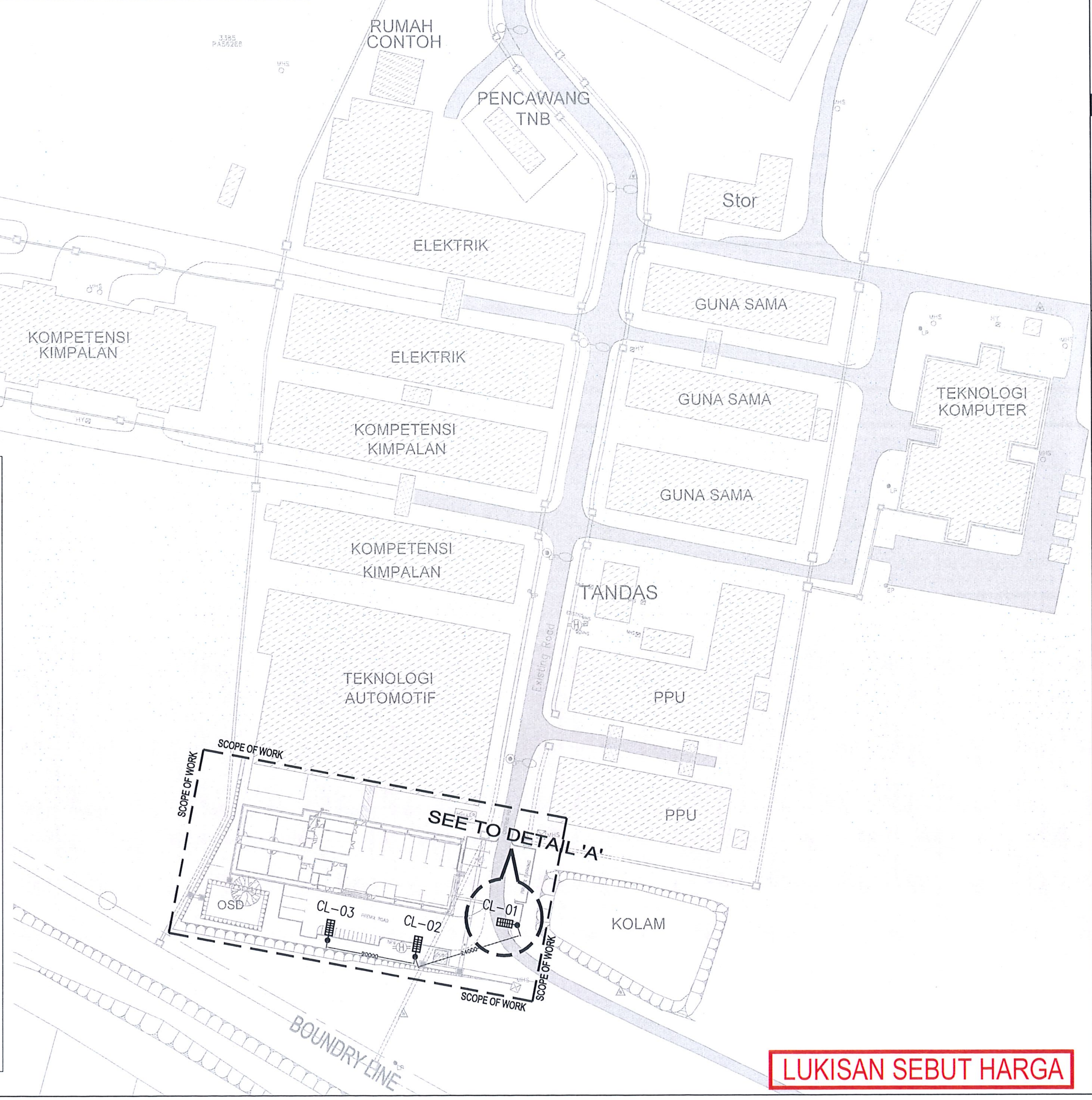
SCALE 1 : 5000
KOORDINAT TAPAK
LATITUDE : 5°49'38.1"N
LONGITUDE : 102°33'30.3"E

LEGEND :

ITEM	DESCRIPITION	QTY
▦	10 METER HEIGHT 120W LED SOLAR COMPOUND LIGHTING (IP66) C/W SOLAR PANEL MODULE, BATTERY, CHARGE CONTROLLER C/W ELECTRONIC PROTECTION (CCT 3500K), 8 METER HOT DIP GALVANIZED OCTAGONAL POLE, FLANGE PLATE, J BOLT, FOOTING, AND ALL NECESSARY ACCESSORIES.	3 NOS



DETAIL 'A' :
TYPICAL OF LED SOLAR COMPOUND LIGHTING
N.T.S



LUKISAN SEBUT HARGA

NOTA :

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV:	DATE	DESCRIPTION	BY

PEMILIK :

MAJLIS AMANAH RAKYAT
BAHAGIAN BINAAN DAN SELENGGARAAN
TINGKAT 11, IBU PEJABAT MARA
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TAJUK LUKISAN :

ELECTRICAL SYSTEM
SITE PLAN BENGKEL PROGRAM TEKNOLOGI AUTOMOTIF
- EXTERNAL UNDERGROUND CABLE ROUTE

TARIKH : OGOS 2026	SKALA : 1: 500
DILUKIS : MHS	DISEMAK : HSN
NO. KONTRAK :	

NO. PROJEK : ECE/P-20/25	REVISION	SHEET NO.
NO. LUKISAN EL-CL	00	03

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.

LEGEND 1 :

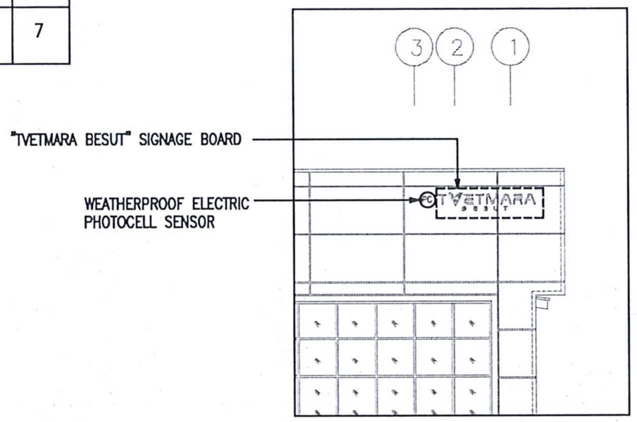
SYMBOL	DESCRIPTION	QTY
▣	100W LED LOW BAY LIGHT FITTING C/W 20mm G.I ROD FIXED FROM PURLIN (BY OTHERS) TO LEVEL (5 METER FROM FINISH LEVEL)	16
⊟	2 x 18W T8 RECCESSED MOUNTED LED MIRROR REFLECTOR FLUORESCENT LIGHTING FTG C/W TUBE, ALL INCLUSIVE OTHERS NECESSARY ACCESSORIES.	33
◫	2 x 6W T8 RECCESSED MOUNTED LED MIRROR REFLECTOR FLUORESCENT LIGHTING FTG C/W TUBE, ALL INCLUSIVE OTHERS NECESSARY ACCESSORIES.	11
⊥	2 x 18W T8 WALL MOUNTED LED BARE CHANNEL LUMINAIRE LIGHT FTG. C/W ANGLE REFLECTOR AND ALL OTHERS NECESSARY ACCESSORIES	4
├─┤	1 x 18W T8 SURFACE MOUNTED LED BARE CHANNEL LIGHT FTG. C/W TUBE, ELECTRONIC BALLAST AND ALL OTHERS NECESSARY ACCESSORIES.	3
├═┤ W	1 x 18W T8 WEATHERPROOF CEILING MOUNTED LED BARE CHANNEL LIGHT FTG. C/W TUBE, ELECTRONIC BALLAST AND ALL OTHERS NECESSARY ACCESSORIES.	8
▬ W	1 x 18W T8 WEATHERPROOF RC COPING MOUNTED LED BARE CHANNEL LIGHT FTG. C/W TUBE, ELECTRONIC BALLAST AND ALL OTHERS NECESSARY ACCESSORIES.	1
⊥ W	1 x 18W T8 WEATHERPROOF WALL MOUNTED LED BARE CHANNEL LIGHT FTG. C/W TUBE, ELECTRONIC BALLAST AND ALL OTHERS NECESSARY ACCESSORIES.	8

LEGEND 2 :

SYMBOL	DESCRIPTION	QTY
⌖	1 x 18W RECESSED MOUNTED LED DOWNLIGHT LIGHTING FTG. C/W DRIVER AND ALL NECESSARY ACCESSORIES.	27
●●●	3 x 5W TRACK ROD LED EYEBALL DOWNLIGHT LIGHTING FTG. C/W DRIVER AND ALL NECESSARY ACCESSORIES.	1
K	LED "KELUAR" SIGN FTTG.	14
EL	LED EMERGENCY LIGHT FTG.	16
EL	TWIN LAMP WALL MOUNTED LED EMERGENCY LIGHT FITTING	6
◐	60" DIA. CEILING FAN FITTING C/W ON/OFF SWITCH, HOOK, SPEED REGULATOR, SAFETY ROPE, SUSPENDED ROD AND ALL INCLUSIVE OTHERS NECESSARY ACCESSORIES.	8
⊗	20" DIA. INDUSTRIAL WALL FAN FITTING C/W SWITCH AND ACCESSORIES (KDK KU50G – BLACK OR EQUIVALENT)	5
⊖	16" DIA. WALL FAN FITTING C/W ON/OFF SWITCH, HOOK AND ALL INCLUSIVE OTHERS NECESSARY ACCESSORIES.	7

LEGEND 3 :

SYMBOL	DESCRIPTION	QTY
▬	500 CFM EXHAUST FAN C/W AUTO SHUTTER (INTERLOCKING WITH LIGHTING SWITCH).	3
♂	10A SPN ONE WAY SWITCH (FLUSH MOUNTED TYPE) LOCATED AT 1200mm FROM FLOOR FINISH LEVEL.	11
●	10A SPN ONE WAY SWITCH (METALCLAD TYPE) LOCATED AT 1200mm FROM FLOOR FINISH LEVEL.	17
♉	10A SPN ONE WAY SWITCH (FLUSH MOUNTED TYPE) LOCATED AT 1200mm FROM FLOOR FINISH LEVEL.	6
SC	SWITCH CENTER LOCATED AT 1200mm FROM FLOOR FINISH LEVEL.	5
PC	WEATHERPROOF ELECTRIC PHOTOCELL SENSOR WALL MOUNTED LOCATED AT HIGH LEVEL.	1



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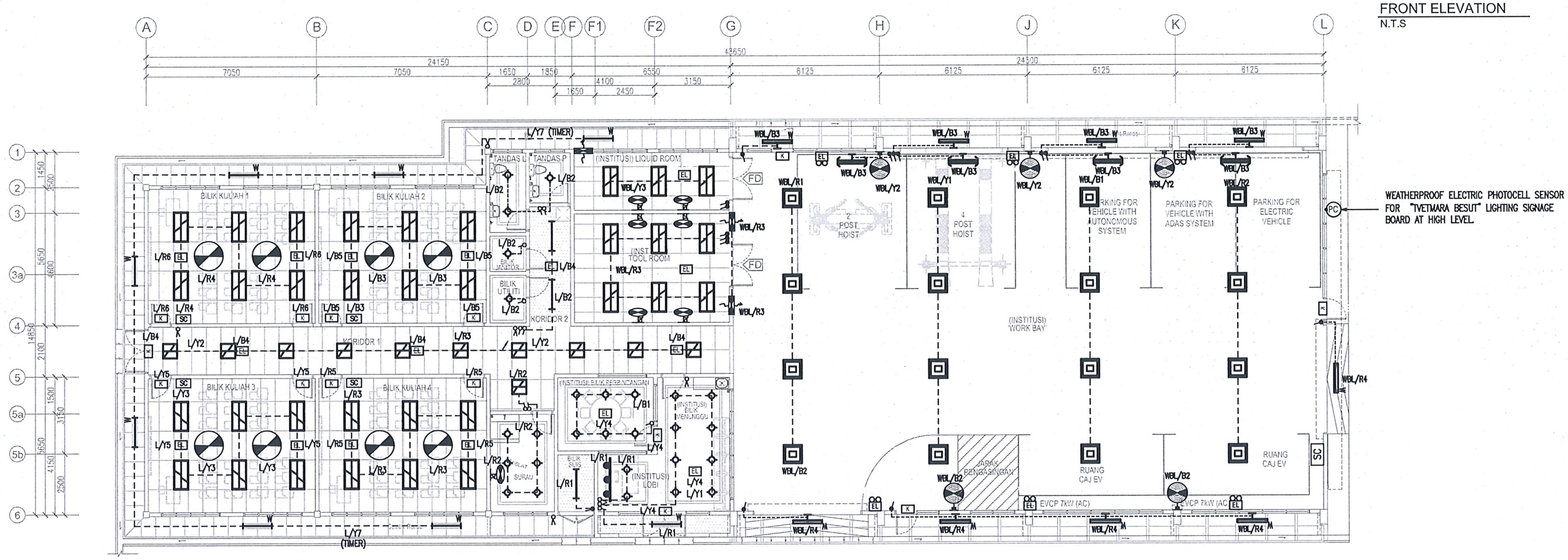
2
1
"TVETMARA BESUT" SIGNAGE BOARD
WEATHERPROOF ELECTRIC PHOTOCELL SENSOR
TVETMARA BESUT

FRONT ELEVATION
N.T.S



WEATHERPROOF ELECTRIC PHOTOCELL SENSOR FOR "TVETMARA BESUT" LIGHTING SIGNAGE BOARD AT HIGH LEVEL.

GROUND FLOOR PLAN
SCALE 1 : 100
GROSS FLOOR AREA: 702.03m2

LUKISAN SEBUT HARGA

NOTA :

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV:	DATE	DESCRIPTION	BY

PEMILIK :

MAJLIS AMANAH RAKYAT
BAHAGIAN BINAAN DAN SELENGGARAAN
TINGKAT 11, IBU PEJABAT MARA
NO 21 JALAN MARA
50609 KUALA LUMPUR

JURUTERA M&E :
"I hereby certify that these works have been designed by me in accordance with sound engineering practice and that I take full responsibility for the design and proper performance of the same"
AHMAD ZAWAWI BIN ABDULLAH
JURUTERA M&E

EMECH CONSULTING ENGINEERS
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PT 2587, TINGKAT BAWAH, TAMAN ADIS INDAH,
JALAN TOK ADIS, KUALA IBAI, 20400
KUALA TERENGGANU,
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TEL : 09-626 1898 FAX : 09-626 1898
EMAIL : pub.wfasb@gmail.com

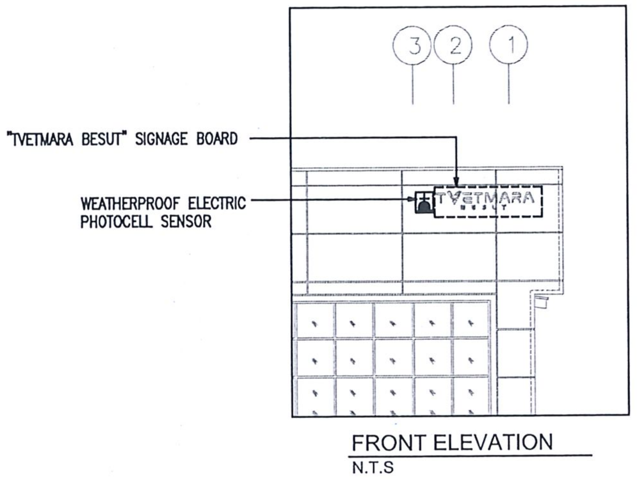
TAJUK LUKISAN :

ELECTRICAL SYSTEM
LIGHTING LAYOUT
- GROUND FLOOR PLAN

TARIKH : OGOS 2026	SKALA : 1: 100
DILUKIS : MHS	DISEMAK : HSN
NO. KONTRAK :	

NO. PROJEK : ECE/P-20/25	REVISION	SHEET NO.
NO. LUKISAN EL-01	00	04

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.


3
2
1
"TVETMARA BESUT" SIGNAGE BOARD
WEATHERPROOF ELECTRIC PHOTOCELL SENSOR
TVETMARA BESUT

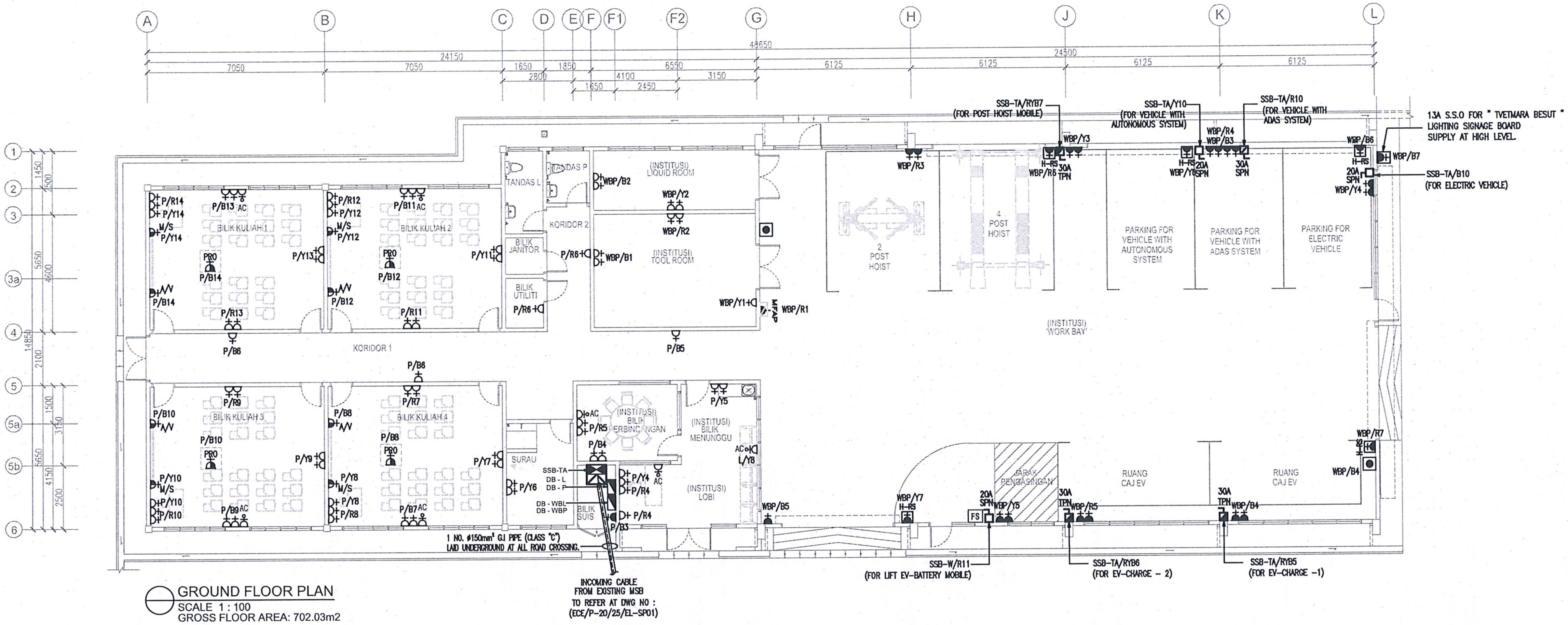
FRONT ELEVATION
N.T.S

LEGEND 1 :

SYMBOL	DESCRIPTION	QTY
☒	760mm x 760mm x 760mm(D) ELECTRICAL PIT c/w R.C SLAB COVER WITH 25mm X 25mm X 2mm THICK ANGLE IRON ALL AROUND.	1
⊠	SUB SWITCH BOARD (SSB-TA)	1
◪	DISTRIBUTION BOARD (DB)	2
▣	EMERGENCY STOP BUTTON	2
AC	1 x 15A FLUSH MOUNTED SWITCH SOCKET OUTLET LOCATED AT HIGH LEVEL FROM FLOOR FINISH LEVEL FOR (AIR CONDITIONING – WALL MOUNTED)	7
	20A SPN ISOLATOR	3
	30A SPN ISOLATOR	1
	30A TPN ISOLATOR	3
FS	30A DP FIREMAN'S SWITCH	1

LEGEND 2 :

SYMBOL	DESCRIPTION	QTY
	1 x 13A FLUSH MOUNTED SWITCH SOCKET OUTLET LOCATED AT 1200mm FROM FLOOR FINISH LEVEL.	62
PRO	1 x 13A FLUSH MOUNTED SWITCH SOCKET OUTLET LOCATED AT ABOVE CEILING LEVEL FROM FLOOR FINISH LEVEL FOR (ANSI LUMENS–PROJECTOR)	4
M/S	1 x 13A FLUSH MOUNTED SWITCH SOCKET OUTLET LOCATED AT ABOVE CEILING LEVEL FROM FLOOR FINISH LEVEL FOR (MOTORISED SCREEN–PROJECTOR)	4
A/V	1 x 13A FLUSH MOUNTED SWITCH SOCKET OUTLET LOCATED AT ABOVE CEILING LEVEL FROM FLOOR FINISH LEVEL FOR (AUDIO VISUAL–PROJECTOR)	4
WP	1 x 13A METAL CLAD SWITCH SOCKET OUTLET LOCATED AT HIGH LEVEL FROM FLOOR FINISH LEVEL FOR (ROLLER SHUTTER)	1
	1 x 13A METAL CLAD SWITCH SOCKET OUTLET LOCATED AT 1200mm FROM FLOOR FINISH LEVEL.	18
H-RS	1 x 13A METAL CLAD SWITCH SOCKET OUTLET LOCATED AT HIGH LEVEL FROM FLOOR FINISH LEVEL FOR (ROLLER SHUTTER)	5
MFAP	1 x 13A METAL CLAD SWITCH SOCKET OUTLET LOCATED AT 1200mm FROM FLOOR FINISH LEVEL. FOR (MAIN FIRE ALARM PANEL)	1



GROUND FLOOR PLAN
SCALE 1 : 100
GROSS FLOOR AREA: 702.03m2

NOTA :

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV:	DATE	DESCRIPTION	BY

PEMILIK :

MAJLIS AMANAH RAKYAT
BAHAGIAN BINAAN DAN SELENGGARAAN
TINGKAT 11, IBU PEJABAT MARA
NO 21 JALAN MARA
50609 KUALA LUMPUR

JURUTERA M&E :

I hereby certify that these works have been designed by me in accordance with sound engineering practice and that I take full responsibility for the design and proper performance of the same

JURUTERA PROFESIONAL DENGAN AMALAN ELEKTRIKAL IR. AZNAN BIN ABIDIN MALAYSIA

Ir. AHMAD ZAWAWI BIN ABDULLAH
JURUTERA M&E

EMECH CONSULTING ENGINEERS
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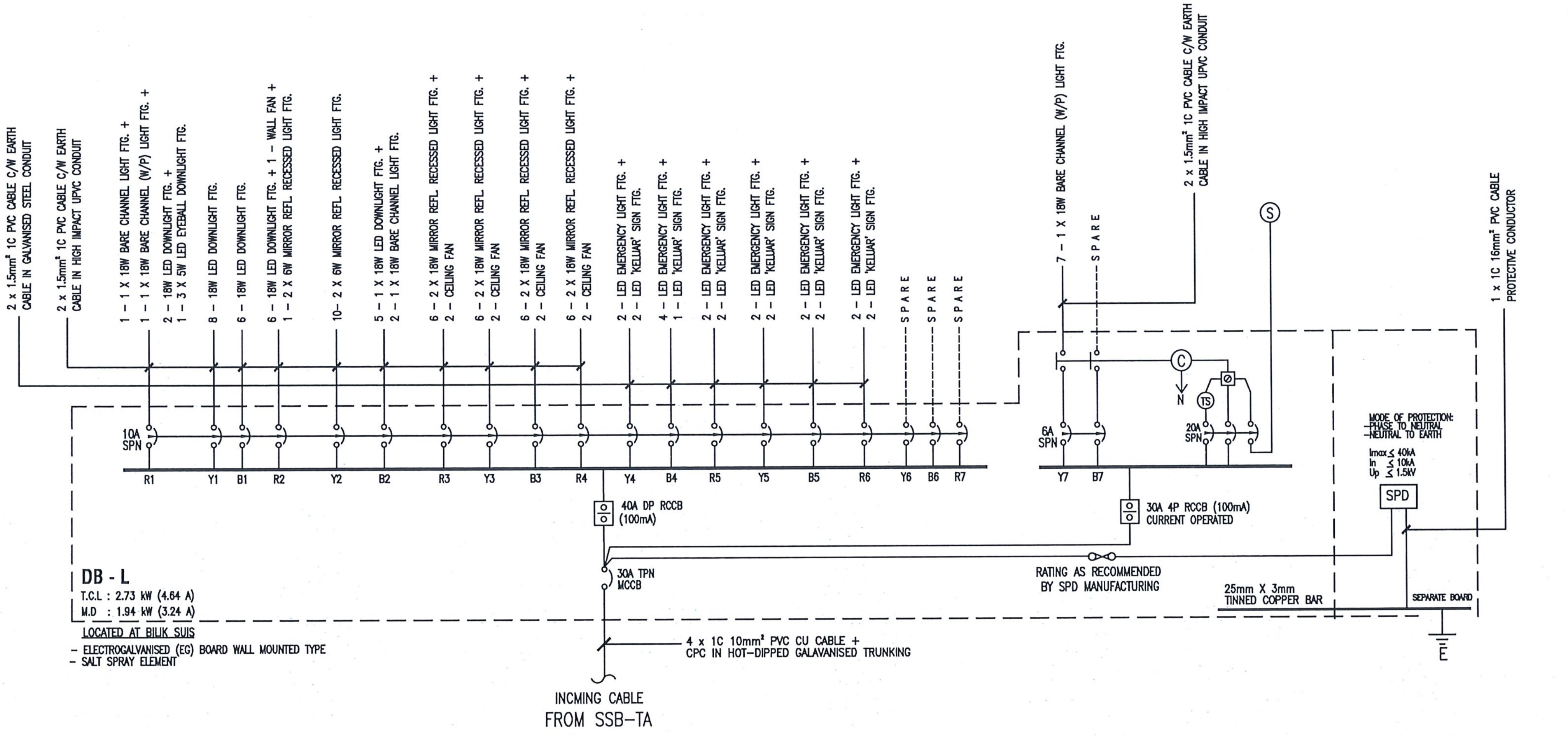
EMAIL : pub.wfasb@gmail.com

TAJUK LUKISAN :
ELECTRICAL SYSTEM
SMALL POWER LAYOUT
- GROUND FLOOR PLAN

TARIKH : OGOS 2026
SKALA : 1: 100
DILUKIS : MHS
DISEMAK : HSN
NO. KONTRAK :
NO. PROJEK : ECE/P-20/25
REVISION 00
SHEET NO. 05
NO. LUKISAN EL-02

LUKISAN SEBUT HARGA

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.


2 x 1.5mm² 1C PVC CABLE C/W EARTH CABLE IN GALVANISED STEEL CONDUIT
2 x 1.5mm² 1C PVC CABLE C/W EARTH CABLE IN HIGH IMPACT UPVC CONDUIT
1 – 1 X 18W BARE CHANNEL LIGHT FTG. + 1 – 1 X 18W BARE CHANNEL (W/P) LIGHT FTG. +
2 – 18W LED DOWNLIGHT FTG. + 1 – 3 X 5W LED EYEBALL DOWNLIGHT FTG.
8 – 18W LED DOWNLIGHT FTG.
6 – 18W LED DOWNLIGHT FTG.
6 – 18W LED DOWNLIGHT FTG. + 1 – WALL FAN + 1 – 2 X 6W MIRROR REFL. RECESSED LIGHT FTG.
10– 2 X 6W MIRROR REFL. RECESSED LIGHT FTG.
5 – 1 X 18W LED DOWNLIGHT FTG. + 2 – 1 X 18W BARE CHANNEL LIGHT FTG.
6 – 2 X 18W MIRROR REFL. RECESSED LIGHT FTG. + 2 – CEILING FAN
6 – 2 X 18W MIRROR REFL. RECESSED LIGHT FTG. + 2 – CEILING FAN
6 – 2 X 18W MIRROR REFL. RECESSED LIGHT FTG. + 2 – CEILING FAN
6 – 2 X 18W MIRROR REFL. RECESSED LIGHT FTG. + 2 – CEILING FAN
2 – LED EMERGENCY LIGHT FTG. + 2 – LED 'KELUAR' SIGN FTG.
4 – LED EMERGENCY LIGHT FTG. + 1 – LED 'KELUAR' SIGN FTG.
2 – LED EMERGENCY LIGHT FTG. + 2 – LED 'KELUAR' SIGN FTG.
2 – LED EMERGENCY LIGHT FTG. + 2 – LED 'KELUAR' SIGN FTG.
2 – LED EMERGENCY LIGHT FTG. + 2 – LED 'KELUAR' SIGN FTG.
2 – LED EMERGENCY LIGHT FTG. + 2 – LED 'KELUAR' SIGN FTG.
SPARE
SPARE
SPARE
7 – 1 X 18W BARE CHANNEL (W/P) LIGHT FTG.
SPARE
2 x 1.5mm² 1C PVC CABLE C/W EARTH CABLE IN HIGH IMPACT UPVC CONDUIT
S
C
N
TS
1 x 1C 16mm² PVC CABLE PROTECTIVE CONDUCTOR
10A SPN
R1 Y1 B1 R2 Y2 B2 R3 Y3 B3 R4 Y4 B4 R5 Y5 B5 R6 Y6 B6 R7
6A SPN
20A SPN
Y7 B7
MODE OF PROTECTION: -PHASE TO NEUTRAL -NEUTRAL TO EARTH
Imax ≤ 40kA
In ≤ 10kA
Up ≤ 1.5kV
SPD
40A DP RCCB (100mA)
30A 4P RCCB (100mA) CURRENT OPERATED
RATING AS RECOMMENDED BY SPD MANUFACTURING
30A TPN MCCB
25mm X 3mm TINNED COPPER BAR
SEPARATE BOARD
E
DB - L
T.C.L : 2.73 kW (4.64 A)
M.D : 1.94 kW (3.24 A)
LOCATED AT BILIK SUIS
– ELECTROGALVANISED (EG) BOARD WALL MOUNTED TYPE
– SALT SPRAY ELEMENT
4 x 1C 10mm² PVC CU CABLE + CPC IN HOT–DIPPED GALAVANISED TRUNKING
INCMING CABLE
FROM SSB–TA

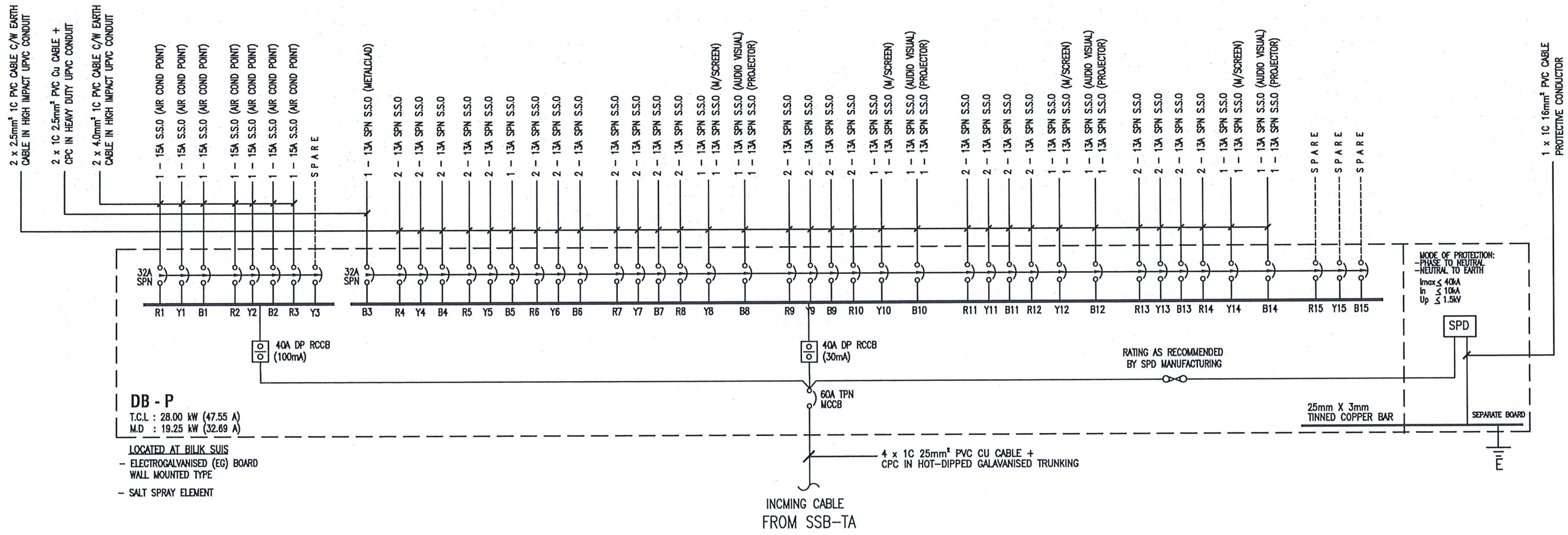
LEGEND :

Ⓒ CONTACTOR

Ⓢ 10A SPN SWITCH

(TS) TIMER SWITCH (BATTERY OPERATED)

⊘ SWITCH SELECTOR


2 x 2.5mm² 1C PVC CABLE C/W EARTH CABLE IN HIGH IMPACT UPVC CONDUIT
2 x 1C 2.5mm² PVC Cu CABLE + CPC IN HEAVY DUTY UPVC CONDUIT
2 x 4.0mm² 1C PVC CABLE C/W EARTH CABLE IN HIGH IMPACT UPVC CONDUIT
1 – 15A S.S.O (AIR COND POINT)
1 – 15A S.S.O (AIR COND POINT)
1 – 15A S.S.O (AIR COND POINT)
1 – 15A S.S.O (AIR COND POINT)
1 – 15A S.S.O (AIR COND POINT)
1 – 15A S.S.O (AIR COND POINT)
1 – 15A S.S.O (AIR COND POINT)
SPARE
1 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
1 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
1 – 13A SPN S.S.O 1 – 13A SPN S.S.O (M/SCREEN)
1 – 13A SPN S.S.O (AUDIO VISUAL) 1 – 13A SPN S.S.O (PROJECTOR)
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
1 – 13A SPN S.S.O 1 – 13A SPN S.S.O (M/SCREEN)
1 – 13A SPN S.S.O (AUDIO VISUAL) 1 – 13A SPN S.S.O (PROJECTOR)
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
1 – 13A SPN S.S.O 1 – 13A SPN S.S.O (M/SCREEN)
1 – 13A SPN S.S.O (AUDIO VISUAL) 1 – 13A SPN S.S.O (PROJECTOR)
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
2 – 13A SPN S.S.O
1 – 13A SPN S.S.O 1 – 13A SPN S.S.O (M/SCREEN)
1 – 13A SPN S.S.O (AUDIO VISUAL) 1 – 13A SPN S.S.O (PROJECTOR)
SPARE
SPARE
SPARE
1 x 1C 16mm² PVC CABLE PROTECTIVE CONDUCTOR
32A SPN
R1 Y1 B1 R2 Y2 B2 R3 Y3
32A SPN
B3 R4 Y4 B4 R5 Y5 B5 R6 Y6 B6 R7 Y7 B7 R8 Y8 B8 R9 Y9 B9 R10 Y10 B10 R11 Y11 B11 R12 Y12 B12 R13 Y13 B13 R14 Y14 B14 R15 Y15 B15
MODE OF PROTECTION: -PHASE TO NEUTRAL -NEUTRAL TO EARTH
Imax ≤ 40kA
In ≤ 10kA
Up ≤ 1.5kV
SPD
40A DP RCCB (100mA)
40A DP RCCB (30mA)
RATING AS RECOMMENDED BY SPD MANUFACTURING
60A TPN MCCB
25mm X 3mm TINNED COPPER BAR
SEPARATE BOARD
E
DB - P
T.C.L : 28.00 kW (47.55 A)
M.D : 19.25 kW (32.69 A)
LOCATED AT BILIK SUIS
– ELECTROGALVANISED (EG) BOARD WALL MOUNTED TYPE
– SALT SPRAY ELEMENT
4 x 1C 25mm² PVC CU CABLE + CPC IN HOT–DIPPED GALAVANISED TRUNKING
INCMING CABLE
FROM SSB–TA

LUKISAN SEBUT HARGA

NOTA :

TENDER DRAWING

PROJEK (Project)

CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV:	DATE	DESCRIPTION	BY

PEMILIK :

MAJLIS AMANAH RAKYAT
BAHAGIAN BINAAN DAN SELENGGARAAN
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IR. AZNAN BIN AR[illegible]DIN
C112432

Ir. AHMAD ZAWAWI BIN ABDULLAH
JURUTERA M&E

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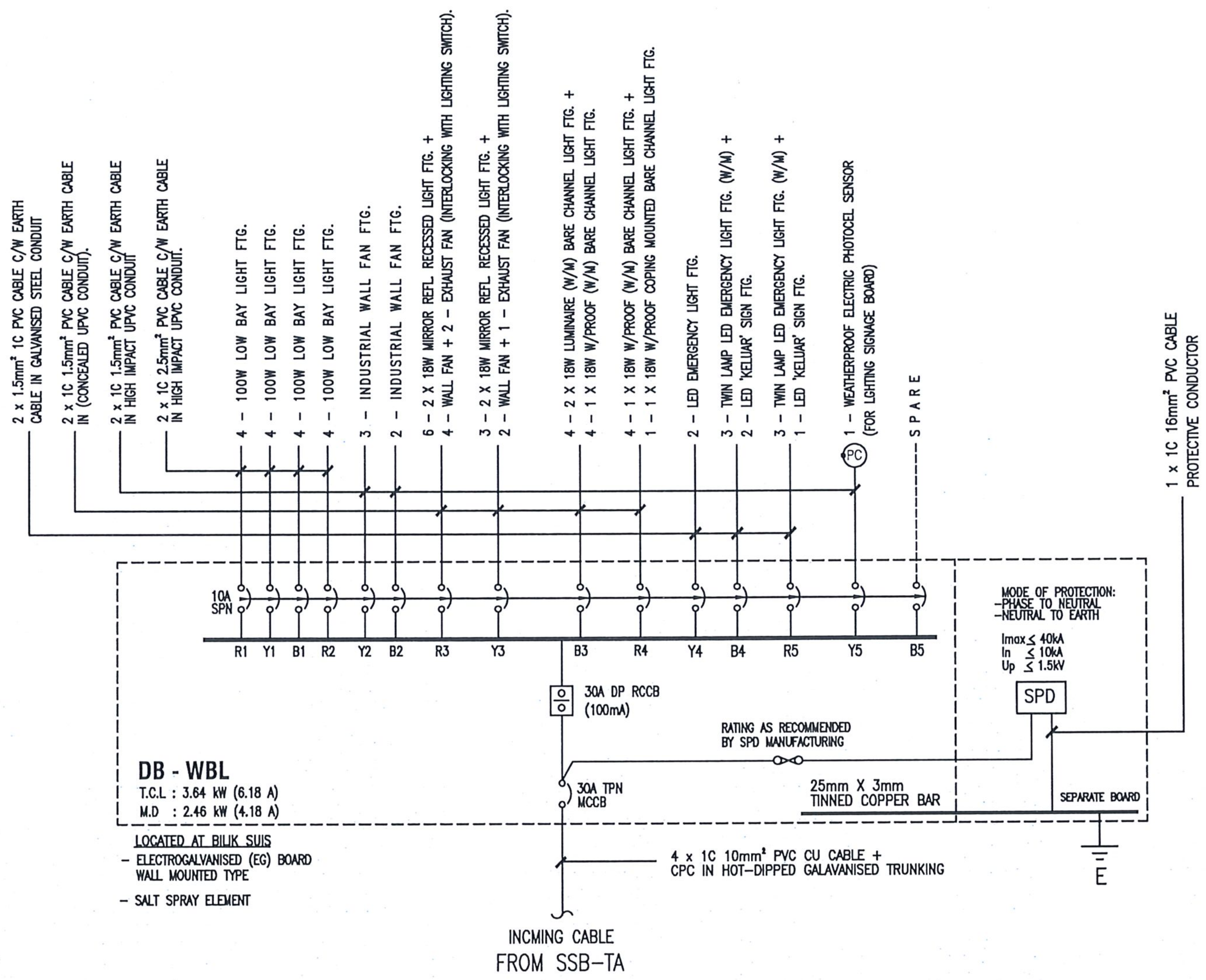
TEL : 09-626 1898 FAX : 09-626 1898
EMAIL : pub.wfasb@gmail.com

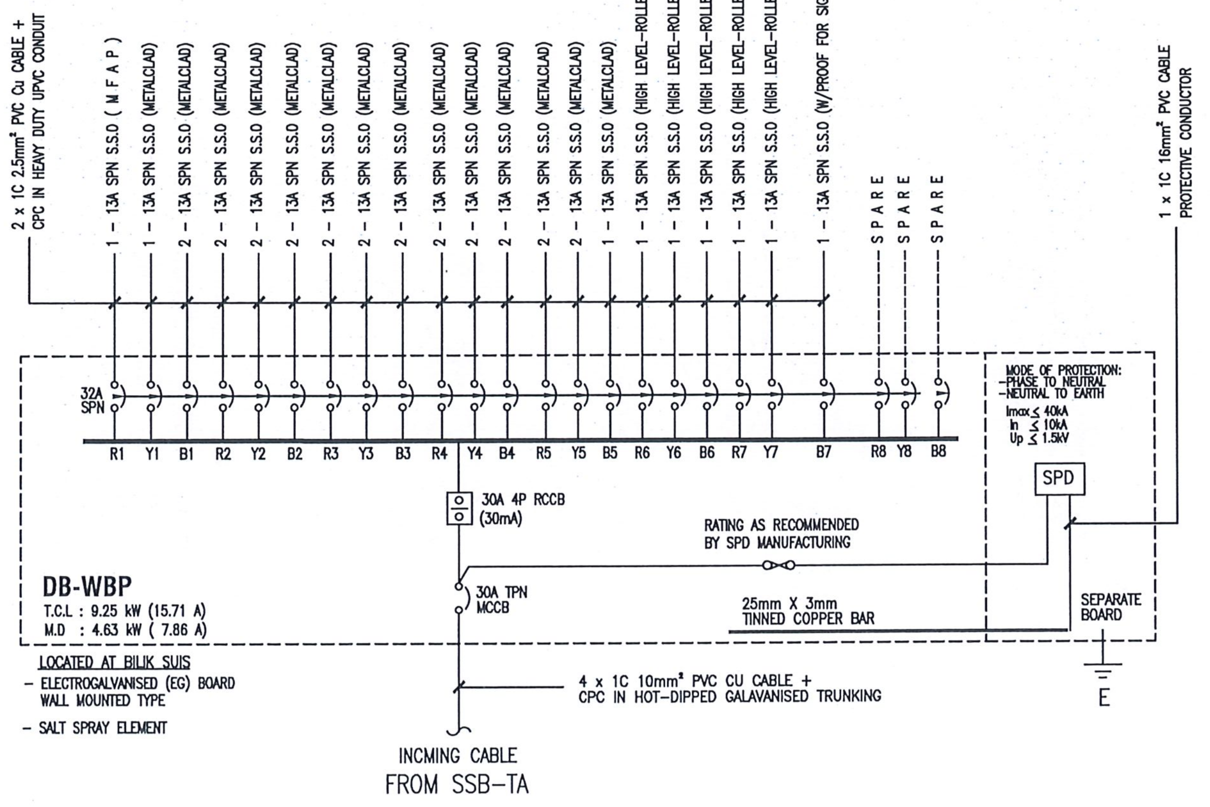
TAJUK LUKISAN :

ELECTRICAL SYSTEM
SINGLE LINE DIAGRAM
- DISTRIBUTION BOARD 1

TARIKH : OGOS 2026	SKALA : N.T.S
DILUKIS : MHS	DISEMAK : HSN
NO. KONTRAK :	
NO. PROJEK : ECE/P-20/25	REVISION / SHEET NO.
NO. LUKISAN EL-03	00 / 06

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA–KERJA DITERUSKAN.


2 x $1.5mm^2$ 1C PVC CABLE C/W EARTH CABLE IN GALVANISED STEEL CONDUIT
2 x 1C $1.5mm^2$ PVC CABLE C/W EARTH CABLE IN (CONCEALED UPVC CONDUIT).
2 x 1C $1.5mm^2$ PVC CABLE C/W EARTH CABLE IN HIGH IMPACT UPVC CONDUIT
2 x 1C $2.5mm^2$ PVC CABLE C/W EARTH CABLE IN HIGH IMPACT UPVC CONDUIT.
4 – 100W LOW BAY LIGHT FTG.
4 – 100W LOW BAY LIGHT FTG.
4 – 100W LOW BAY LIGHT FTG.
4 – 100W LOW BAY LIGHT FTG.
3 – INDUSTRIAL WALL FAN FTG.
2 – INDUSTRIAL WALL FAN FTG.
6 – 2 X 18W MIRROR REFL. RECESSED LIGHT FTG. +
4 – WALL FAN + 2 – EXHAUST FAN (INTERLOCKING WITH LIGHTING SWITCH).
3 – 2 X 18W MIRROR REFL. RECESSED LIGHT FTG. +
2 – WALL FAN + 1 – EXHAUST FAN (INTERLOCKING WITH LIGHTING SWITCH).
4 – 2 X 18W LUMINAIRE (W/M) BARE CHANNEL LIGHT FTG. +
4 – 1 X 18W W/PROOF (W/M) BARE CHANNEL LIGHT FTG.
4 – 1 X 18W W/PROOF (W/M) BARE CHANNEL LIGHT FTG. +
1 – 1 X 18W W/PROOF COPING MOUNTED BARE CHANNEL LIGHT FTG.
2 – LED EMERGENCY LIGHT FTG.
3 – TWIN LAMP LED EMERGENCY LIGHT FTG. (W/M) +
2 – LED 'KELUAR' SIGN FTG.
3 – TWIN LAMP LED EMERGENCY LIGHT FTG. (W/M) +
1 – LED 'KELUAR' SIGN FTG.
PC
1 – WEATHERPROOF ELECTRIC PHOTOCEL SENSOR (FOR LIGHTING SIGNAGE BOARD)
SPARE
1 x 1C $16mm^2$ PVC CABLE PROTECTIVE CONDUCTOR
10A SPN
R1 Y1 B1 R2 Y2 B2 R3 Y3 B3 R4 Y4 B4 R5 Y5 B5
30A DP RCCB (100mA)
MODE OF PROTECTION:
-PHASE TO NEUTRAL
-NEUTRAL TO EARTH
Imax ≤ 40kA
In ≤ 10kA
Up ≤ 1.5kV
SPD
RATING AS RECOMMENDED BY SPD MANUFACTURING
30A TPN MCCB
25mm X 3mm TINNED COPPER BAR
SEPARATE BOARD
DB - WBL
T.C.L : 3.64 kW (6.18 A)
M.D : 2.46 kW (4.18 A)
LOCATED AT BILIK SUIS
– ELECTROGALVANISED (EG) BOARD WALL MOUNTED TYPE
– SALT SPRAY ELEMENT
4 x 1C $10mm^2$ PVC CU CABLE + CPC IN HOT–DIPPED GALAVANISED TRUNKING
E
INCMING CABLE
FROM SSB–TA


2 x 1C $2.5mm^2$ PVC Cu CABLE + CPC IN HEAVY DUTY UPVC CONDUIT
1 – 13A SPN S.S.O (M F A P)
1 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
2 – 13A SPN S.S.O (METALCLAD)
1 – 13A SPN S.S.O (METALCLAD)
1 – 13A SPN S.S.O (HIGH LEVEL–ROLLER SHUTTER)
1 – 13A SPN S.S.O (HIGH LEVEL–ROLLER SHUTTER)
1 – 13A SPN S.S.O (HIGH LEVEL–ROLLER SHUTTER)
1 – 13A SPN S.S.O (HIGH LEVEL–ROLLER SHUTTER)
1 – 13A SPN S.S.O (HIGH LEVEL–ROLLER SHUTTER)
1 – 13A SPN S.S.O (W/PROOF FOR SIGNAGE)
SPARE
SPARE
SPARE
1 x 1C $16mm^2$ PVC CABLE PROTECTIVE CONDUCTOR
32A SPN
R1 Y1 B1 R2 Y2 B2 R3 Y3 B3 R4 Y4 B4 R5 Y5 B5 R6 Y6 B6 R7 Y7 B7 R8 Y8 B8
MODE OF PROTECTION:
-PHASE TO NEUTRAL
-NEUTRAL TO EARTH
Imax ≤ 40kA
In ≤ 10kA
Up ≤ 1.5kV
SPD
30A 4P RCCB (30mA)
RATING AS RECOMMENDED BY SPD MANUFACTURING
30A TPN MCCB
25mm X 3mm TINNED COPPER BAR
SEPARATE BOARD
DB-WBP
T.C.L : 9.25 kW (15.71 A)
M.D : 4.63 kW (7.86 A)
LOCATED AT BILIK SUIS
– ELECTROGALVANISED (EG) BOARD WALL MOUNTED TYPE
– SALT SPRAY ELEMENT
4 x 1C $10mm^2$ PVC CU CABLE + CPC IN HOT–DIPPED GALAVANISED TRUNKING
E
INCMING CABLE
FROM SSB–TA

LUKISAN SEBUT HARGA

NOTA :

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV:	DATE	DESCRIPTION	BY

PEMILIK :
MAJLIS AMANAH RAKYAT
BAHAGIAN BINAAN DAN SELENGGARAAN
TINGKAT 11, IBU PEJABAT MARA
NO 21 JALAN MARA
50609 KUALA LUMPUR

JURUTERA M&E :
"I hereby certify that these works have been designed by me in accordance with sound engineering practice and that I take full responsibility for the design and proper performance of the same"
Ir. AHMAD ZAWAWI BIN ABDULLAH
JURUTERA M&E
EMECH CONSULTING ENGINEERS
NO. 28092, ARAS 1 & 2, PERKEDAIAN PERMINT PERDANA, KAMPUNG BATIN, SEBERANG TAKIR,
21300 KUALA TERENGGANU, TERENGGANU.
TEL : 09-668 7337 FAX : 09-668 7336
EMAIL : emechconsult@gmail.com

IR. AZNAN BIN ABIDIN
C112423

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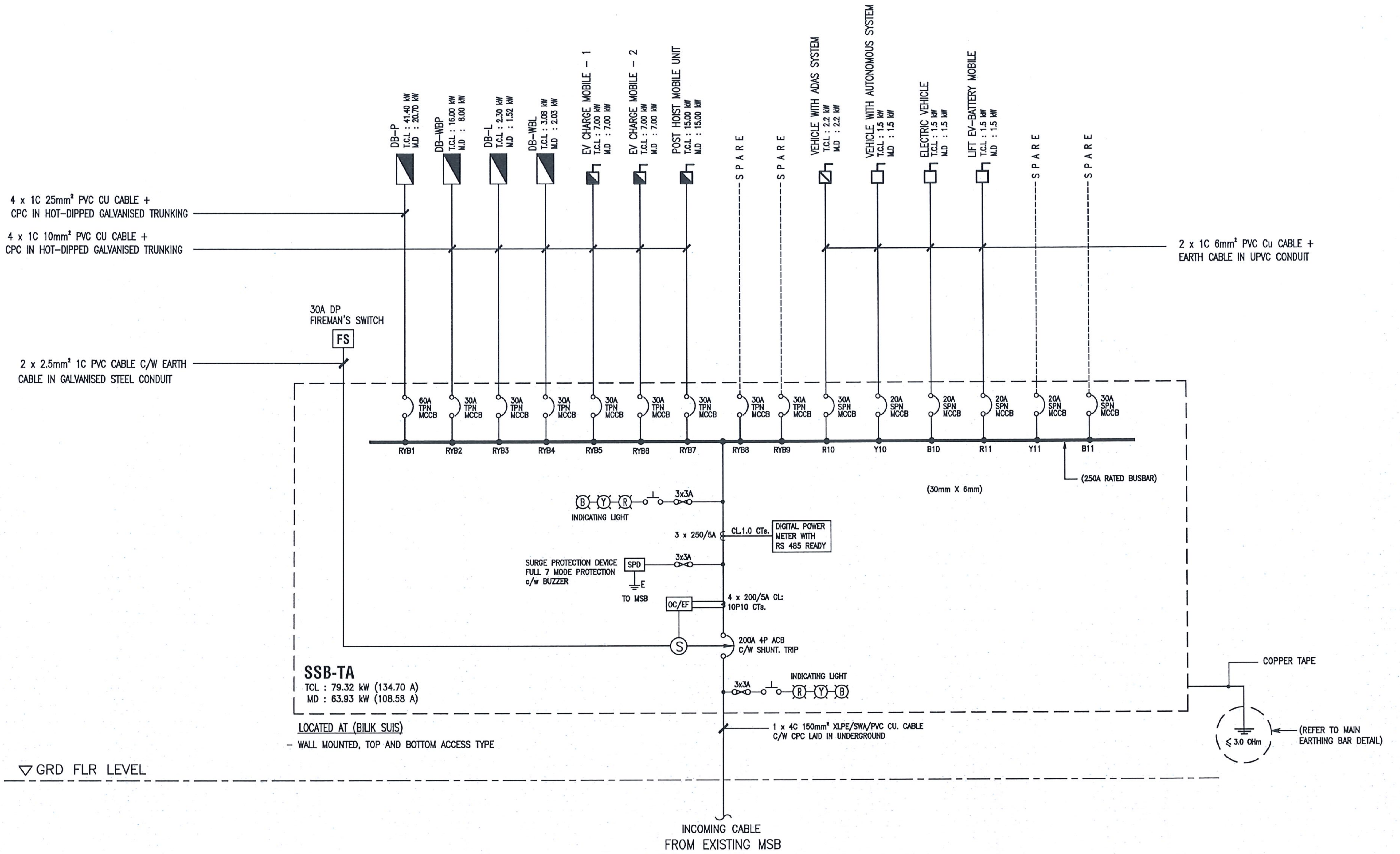
TEL : 09-626 1898 FAX : 09-626 1898
EMAIL : pub.wfasb@gmail.com

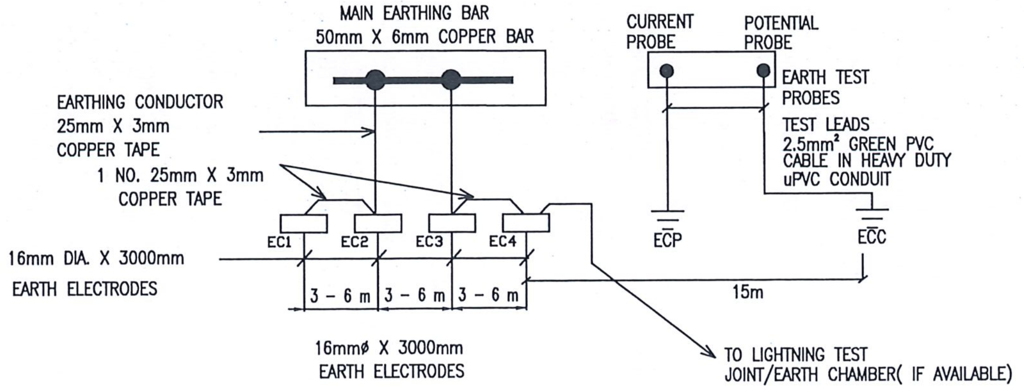
TAJUK LUKISAN :
ELECTRICAL SYSTEM
SINGLE LINE DIAGRAM (WORKBAY)
- DISTRIBUTION BOARD 2

TARIKH : OGOS 2026	SKALA : N.T.S
DILUKIS : MHS	DISEMAK : HSN
NO. KONTRAK :	

	REVISION	SHEET NO.
NO. PROJEK : ECE/P-20/25		
NO. LUKISAN EL-04	00	07

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA–KERJA DITERUSKAN.





MAIN EARTHING BAR DETAIL
N.T.S

LUKISAN SEBUT HARGA

NOTA :

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN
BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF
DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV:	DATE	DESCRIPTION	BY

PEMILIK :

MAJLIS AMANAH RAKYAT
BAHAGIAN BINAAN DAN SELENGGARAAN
TINGKAT 10, IBU PEJABAT MARA
NO 21 JALAN MARA
50609 KUALA LUMPUR

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Ir AHMAD ZAWAWI BIN ABDULLAH
JURUTERA M&E

EMECH CONSULTING ENGINEERS
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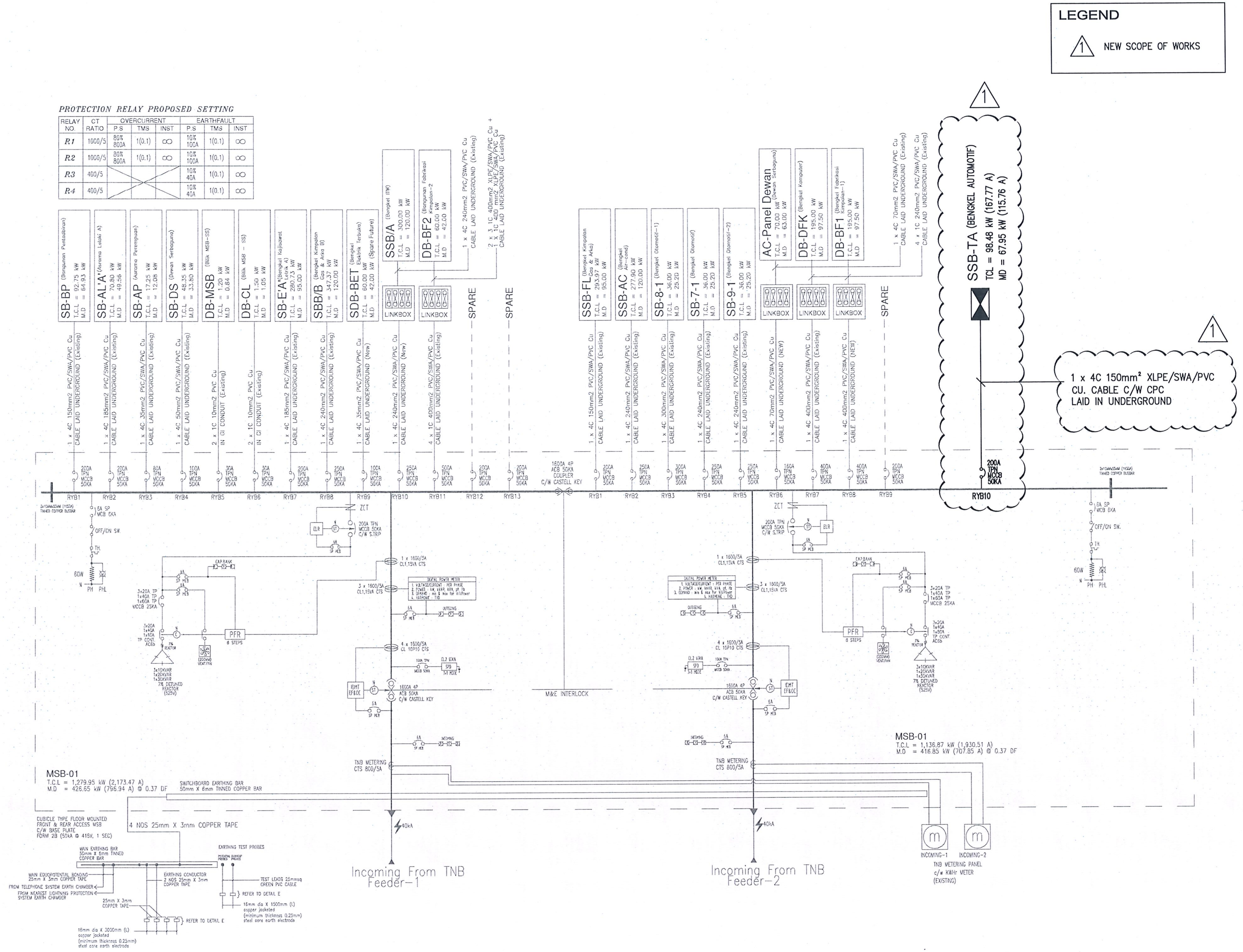
TAJUK LUKISAN :
ELECTRICAL SYSTEM
SINGLE LINE DIAGRAM
- SUB SWITCH BOARD (SSB-TA)

TARIKH : OGOS 2026
SKALA : N.T.S
DILUKIS : MHS
DISEMAK : HSN
NO. KONTRAK :
NO. PROJEK : ECE/P-20/25
REVISION : 00
SHEET NO. : 08
NO. LUKISAN : EL-05

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA–KERJA DITERUSKAN.


LEGEND
NEW SCOPE OF WORKS
SB-BP (Bangunan Pentadbiran) T.C.L = 92.75 kW M.D = 64.93 kW
1 x 4C 150mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
SB-AL'A' (Asrama Lelaki A) T.C.L = 70.80 kW M.D = 49.56 kW
1 x 4C 185mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
SB-AP (Asrama Perempuan) T.C.L = 17.25 kW M.D = 12.08 kW
1 x 4C 35mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
SB-DS (Dewan Serbaguna) T.C.L = 48.35 kW M.D = 33.80 kW
1 x 4C 50mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
DB-MSB (Bilik MSB-SS) T.C.L = 1.20 kW M.D = 0.84 kW
2 x 1C 10mm2 PVC Cu IN GI CONDUIT (Existing)
DB-CL (Bilik MSB - SS) T.C.L = 1.50 kW M.D = 1.05 kW
2 x 1C 10mm2 PVC Cu IN GI CONDUIT (Existing)
SB-E'A' (Bengkel Kajisawat Letrik A) T.C.L = 280.73 kW M.D = 95.00 kW
1 x 4C 185mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
SBB/B (Bengkel Kimpalan Gas & Arka B) T.C.L = 347.37 kW M.D = 120.00 kW
1 x 4C 240mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
SDB-BET (Bengkel Elektrik Terbuka) T.C.L = 60.00 kW M.D = 42.00 kW (Spare Future)
1 x 4C 35mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (New)
SSB/A (Bengkel ITW) T.C.L = 300.00 kW M.D = 120.00 kW
1 x 4C 240mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (New)
DB-BF2 (Bangunan Fabrikasi Kimpalan-2) T.C.L = 60.00 kW M.D = 42.00 kW
4 x 1C 400mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
LINKBOX
1 x 4C 240mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
2 x 3 1C 400mm2 XLPE/SWA/PVC Cu + 1 X 1C 400 mm2 XLPE/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
SPARE
SPARE
SSB-FL (Bengkel Kimpalan Gas & Arka) T.C.L = 293.97 kW M.D = 95.00 kW
1 x 4C 150mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
SSB-AC (Bengkel Air-cond) T.C.L = 277.90 kW M.D = 120.00 kW
1 x 4C 240mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
SB-8-1 (Bengkel Otomotif-1) T.C.L = 36.00 kW M.D = 25.20 kW
1 x 4C 300mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
SB-7-1 (Bengkel Otomotif) T.C.L = 36.00 kW M.D = 25.20 kW
1 x 4C 240mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
SB-9-1 (Bengkel Otomotif-2) T.C.L = 36.00 kW M.D = 25.20 kW
1 x 4C 240mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
AC-Panel Dewan (Dewan Serbaguna) T.C.L = 70.00 kW M.D = 63.00 kW
1 x 4C 70mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (NEW)
DB-DFK (Bengkel Komputer) T.C.L = 195.00 kW M.D = 97.50 kW
1 x 4C 400mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
DB-BF1 (Bengkel Fabrikasi Kimpalan-1) T.C.L = 195.00 kW M.D = 97.50 kW
1 x 4C 400mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (NEW)
1 x 4C 70mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
4 x 1C 240mm2 PVC/SWA/PVC Cu CABLE LAID UNDERGROUND (Existing)
SPARE
SSB-TA (BENGKEL AUTOMOTIF)
TCL = 98.48 kW (167.77 A)
MD = 67.95 kW (115.76 A)
1 x 4C 150mm² XLPE/SWA/PVC CU. CABLE C/W CPC LAID IN UNDERGROUND
200A TPN MCCB 50KA
RYB10
200A TPN MCCB 50KA
200A TPN MCCB 50KA
80A TPN MCCB 50KA
100A TPN MCCB 50KA
30A TPN MCCB 50KA
30A TPN MCCB 50KA
200A TPN MCCB 50KA
250A TPN MCCB 50KA
100A TPN MCCB 50KA
250A TPN MCCB 50KA
500A TPN MCCB 50KA
200A TPN MCCB 50KA
200A TPN MCCB 50KA
1600A 4P ACB 50KA COUPLER C/W CASTELL KEY
200A TPN MCCB 50KA
250A TPN MCCB 50KA
300A TPN MCCB 50KA
250A TPN MCCB 50KA
250A TPN MCCB 50KA
160A TPN MCCB 50KA
400A TPN MCCB 50KA
400A TPN MCCB 50KA
200A TPN MCCB 50KA
RYB1
RYB2
RYB3
RYB4
RYB5
RYB6
RYB7
RYB8
RYB9
RYB10
RYB11
RYB12
RYB13
RYB1
RYB2
RYB3
RYB4
RYB5
RYB6
RYB7
RYB8
RYB9
6A SP MCB 6KA
OFF/ON SW.
TH
60W
N PH PHL
ZCT
ELR
200A TPN MCCB 50KA C/W S.TRIP
CAP.BANK
PFR 6 STEPS
3x20A TP 1x40A TP 1x60A TP MCCB 25KA
3x10KVAR 1x20KVAR 1x30KVAR 7% DETUNED REACTOR (525V)
1 x 1600/5A CL1,15VA CTS
3 x 1600/5A CL1,15VA CTS
DIGITAL POWER METER
4 x 1600/5A CL 10P10 CTS
IDMT EF&OC
1600A 4P ACB 50KA C/W CASTELL KEY
M&E INTERLOCK
TNB METERING CTS 800/5A
40kA
Incoming From TNB Feeder-1
Incoming From TNB Feeder-2
MSB-01
T.C.L = 1,279.95 kW (2,173.47 A)
M.D = 426.65 kW (756.94 A) @ 0.37 DF
MSB-01
T.C.L = 1,136.87 kW (1,930.51 A)
M.D = 416.85 kW (707.85 A) @ 0.37 DF
SWITCHBOARD EARTHING BAR 50mm X 6mm TINNED COPPER BAR
CUBICLE TYPE FLOOR MOUNTED FRONT & REAR ACCESS MSB C/W BASE PLATE FORM 2B (50kA @ 415V, 1 SEC)
4 NOS 25mm X 3mm COPPER TAPE
MAIN EARTHING BAR 50mm X 6mm TINNED COPPER BAR
EARTHING TEST PROBES
MAIN EQUIPOTENTIAL BONDING 25mm X 3mm COPPER TAPE
FROM TELEPHONE SYSTEM EARTH CHAMBER
FROM NEAREST LIGHTNING PROTECTION SYSTEM EARTH CHAMBER
EARTHING CONDUCTOR 2 NOS 25mm X 3mm COPPER TAPE
TEST LEADS 25mmsq GREEN PVC CABLE
REFER TO DETAIL E
25mm X 3mm COPPER TAPE
16mm dia X 3000mm (L) copper jacketed (minimum thickness 0.25mm) steel core earth electrode
16mm dia X 1500mm (L) copper jacketed (minimum thickness 0.25mm) steel core earth electrode
INCOMING-1
INCOMING-2
TNB METERING PANEL c/w KWHr METER (EXISTING)

PROTECTION RELAY PROPOSED SETTING

RELAY NO.	CT RATIO	OVERCURRENT			EARTHFAULT		
		P.S	TMS	INST	P.S	TMS	INST
R1	1000/5	80% 800A	1(0.1)	∞	10% 100A	1(0.1)	∞
R2	1000/5	80% 800A	1(0.1)	∞	10% 100A	1(0.1)	∞
R3	400/5				10% 40A	1(0.1)	∞
R4	400/5				10% 40A	1(0.1)	∞

LUKISAN SEBUT HARGA

NOTA :

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN
BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF
DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV:	DATE	DESCRIPTION	BY

PEMILIK :

MAJLIS AMANAH RAKYAT
BAHAGIAN BINAAN DAN SELENGGARAAN
TINGKAT 11, IBU PEJABAT MARA
NO 21 JALAN MARA
50609 KUALA LUMPUR

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ELEKTRIKAL
IR. AZNAN BIN ABIDIN
C112322
MALAYSIA

Ir. AHMAD ZAWAWI BIN ABDULLAH
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PARIT, 20050 KUALA TERENGGANU, TERENGGANU.
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TAJUK LUKISAN :

ELECTRICAL SYSTEM

SINGLE LINE DIAGRAM
- MAIN SWITCH BOARD (EXISTING)

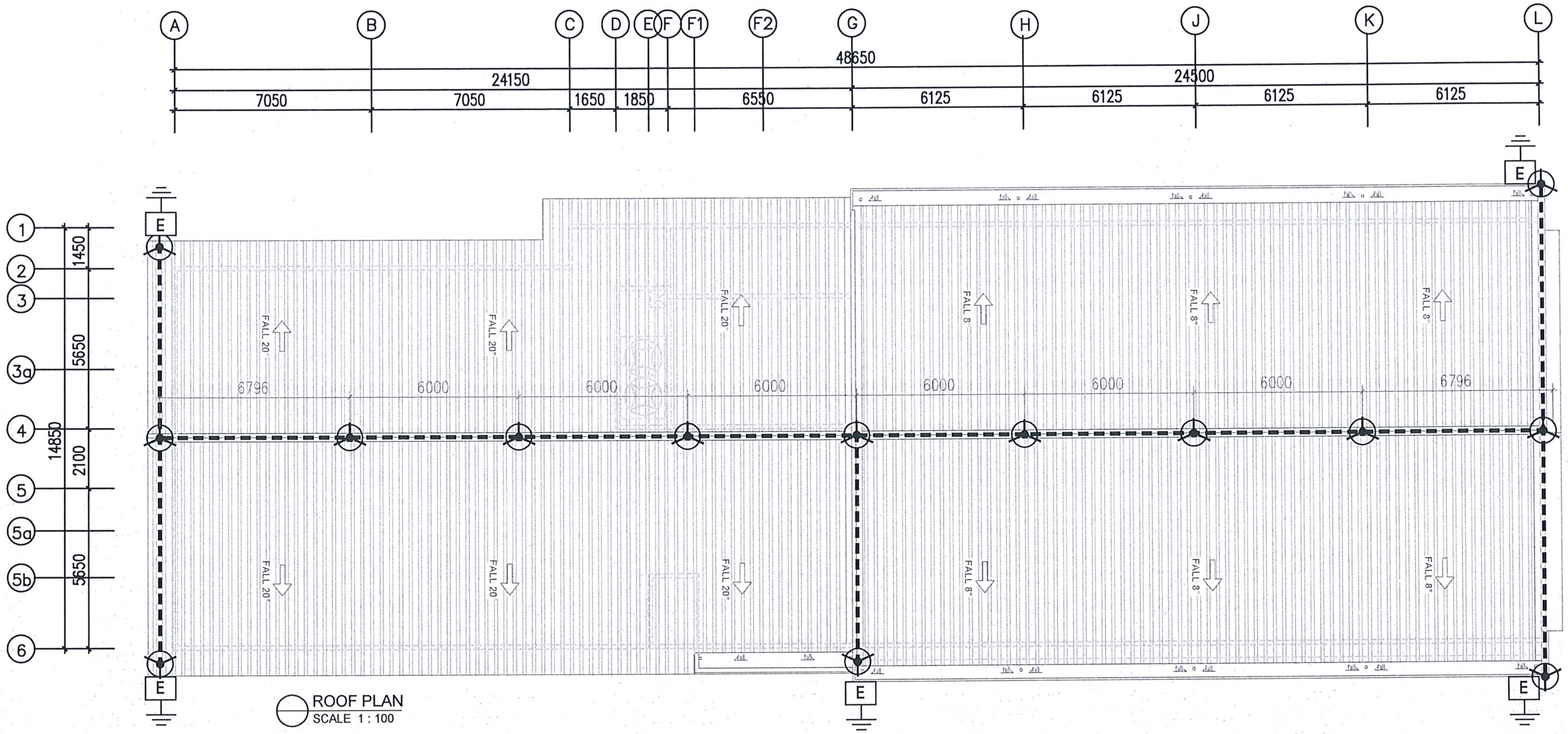
TARIKH : OGOS 2026	SKALA : N.T.S
DILUKIS : MHS	DISEMAK : HSN
NO. KONTRAK :	

	REVISION	SHEET NO.
NO. PROJEK : ECE/P-20/25		
NO. LUKISAN EL-06	00	09

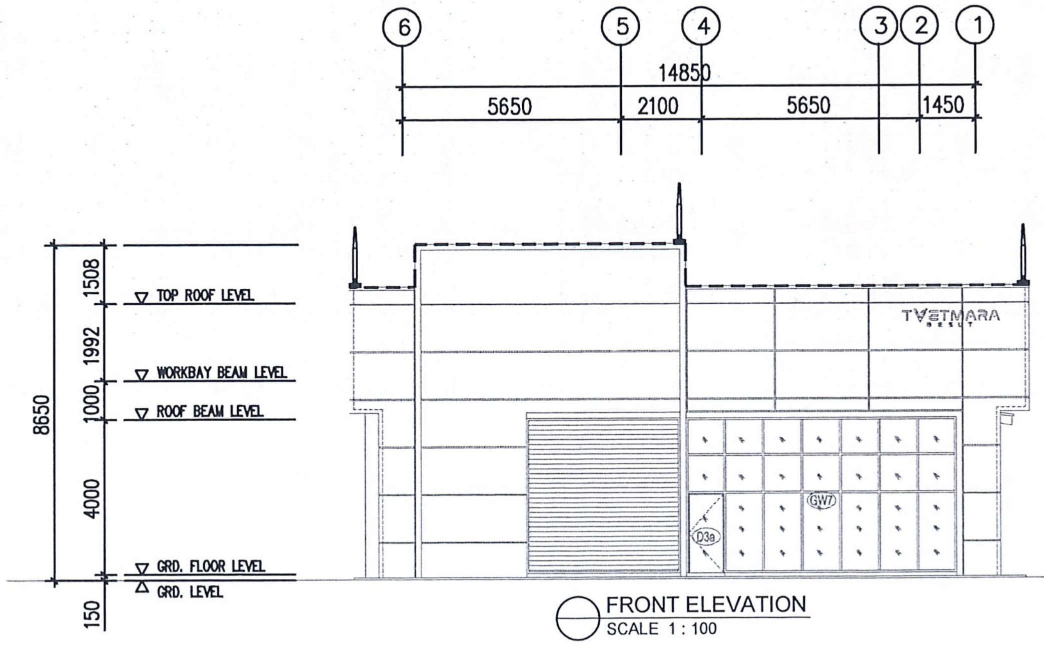
HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.

LEGEND

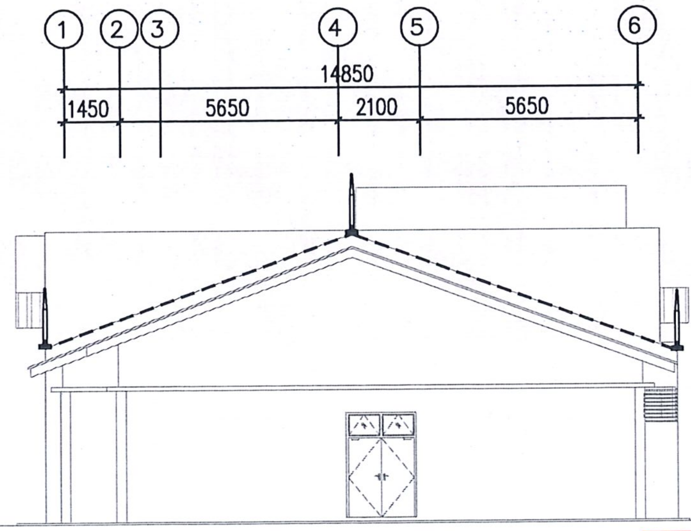
ITEM	DESCRIPTION	QTY
⊕	16mm DIA 300mm (L) AIR TERMINAL C/W BASE	15 NOS
E	HEAVY DUTY TYPE CONCRETE EARTH CHAMBER	5 NOS
----	25mm x 3mm (THK) COPPER TAPE	180m



ROOF PLAN
SCALE 1 : 100



FRONT ELEVATION
SCALE 1 : 100



REAR ELEVATION
SCALE 1 : 100

LUKISAN SEBUT HARGA

NOTA

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA

REV:	DATE	DESCRIPTION	BY

PEMILIK :

MAJLIS AMANAH RAKYAT
BAHAGIAN BINAAN DAN SELENGGARAAN
TINGKAT 11, IBU PEJABAT MARA
NO 21 JALAN MARA
50609 KUALA LUMPUR

JURUTERA M&E :

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Ir. AHMAD ZAWAWI BIN ABDULLAH
JURUTERA M&E

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PARIT, 20050 KUALA TERENGGANU, TERENGGANU.
TEL : 09-626 1898 FAX : 09-626 1898
EMAIL : pub.wfasb@gmail.com

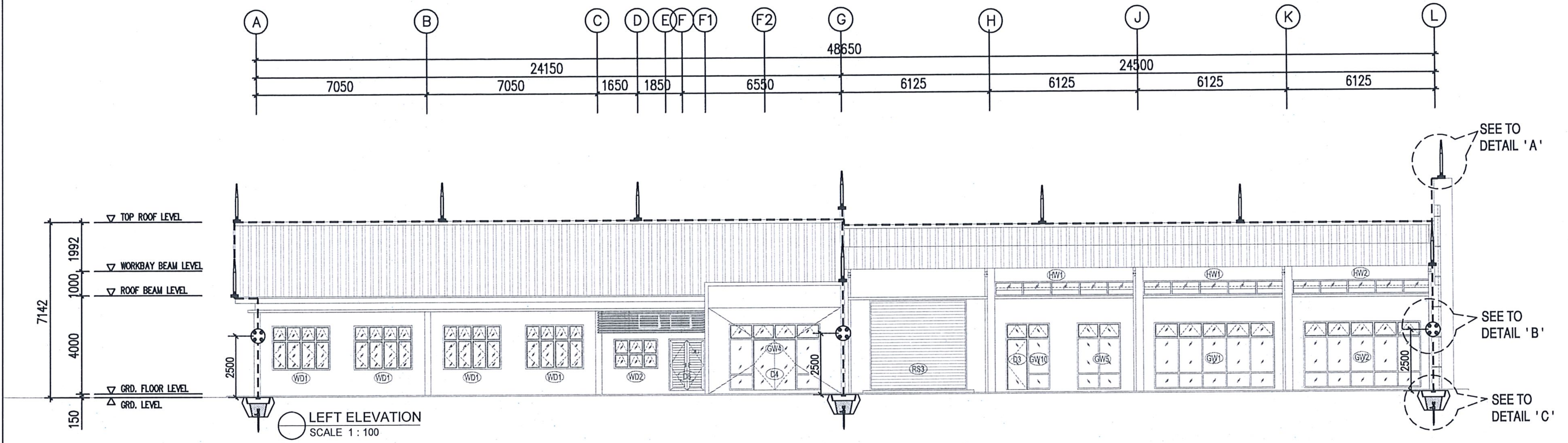
TAJUK LUKISAN :

LIGHTNING PROTECTION SYSTEM
- ROOF PLAN LAYOUT
- FRONT & REAR ELEVATION PLAN

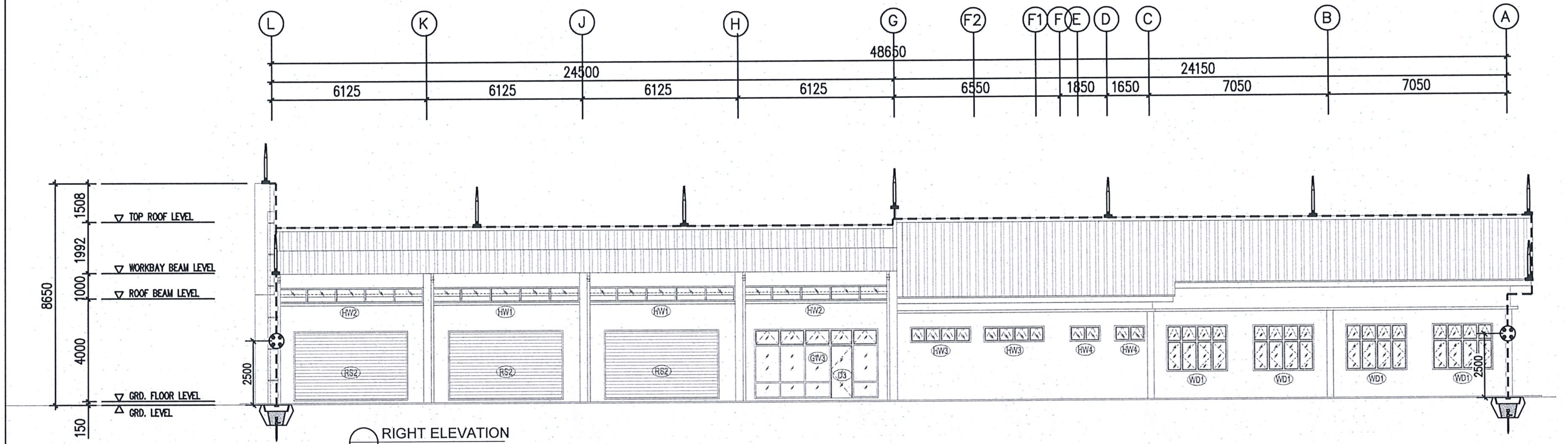
TARIKH : OGOS 2026	SKALA : 1: 100
DILUKIS : MHS	DISEMAK : HSN
NO. KONTRAK :	

NO. PROJEK : ECE/P-20/25	REVISION	SHEET NO.
NO. LUKISAN LP-01	00	10

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.



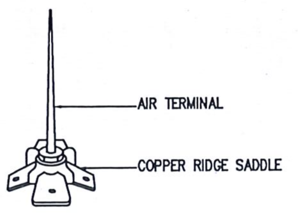
LEFT ELEVATION
SCALE 1 : 100



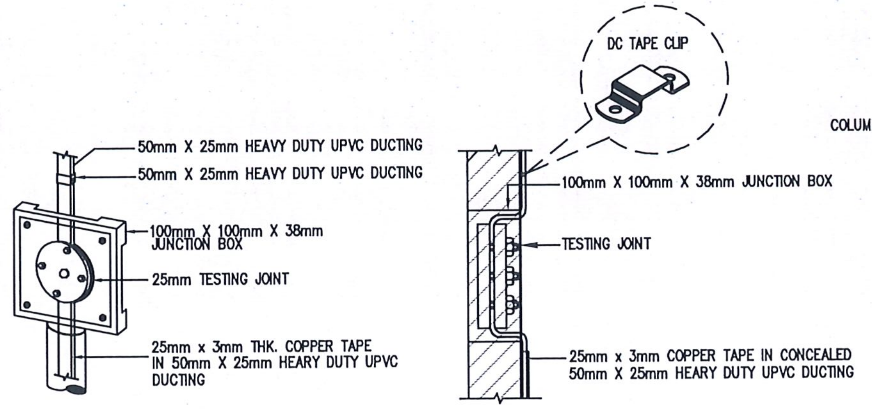
RIGHT ELEVATION
SCALE 1 : 100

LEGEND

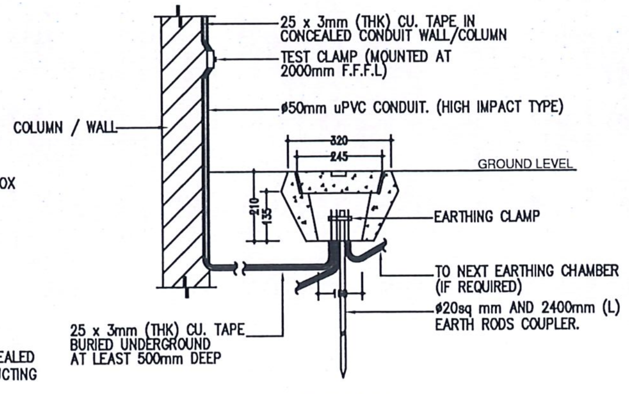
ITEM	DESCRIPTION	QTY
╽	16mm DIA 300mm (L) AIR TERMINAL C/W BASE	13 NOS
▽	HEAVY DUTY TYPE CONCRETE EARTH CHAMBER	6 NOS
⊕	TESTING JOINT	6 NOS
- - - - -	3mm x 25mm COPPER TAPE	120m



DETAIL 'A':
AIR TERMINAL DETAILS
N.T.S


50mm X 25mm HEAVY DUTY UPVC DUCTING
50mm X 25mm HEAVY DUTY UPVC DUCTING
100mm X 100mm X 38mm JUNCTION BOX
25mm TESTING JOINT
25mm x 3mm THK. COPPER TAPE IN 50mm X 25mm HEARY DUTY UPVC DUCTING
DC TAPE CLIP
100mm X 100mm X 38mm JUNCTION BOX
TESTING JOINT
25mm x 3mm COPPER TAPE IN CONCEALED 50mm X 25mm HEARY DUTY UPVC DUCTING

DETAIL 'B':
TESTING JOINT DETAILS
N.T.S


25 x 3mm (THK) CU. TAPE IN CONCEALED CONDUIT WALL/COLUMN
TEST CLAMP (MOUNTED AT 2000mm F.F.F.L)
ø50mm uPVC CONDUIT. (HIGH IMPACT TYPE)
COLUMN / WALL
320
245
GROUND LEVEL
210
135
EARTHING CLAMP
TO NEXT EARTHING CHAMBER (IF REQUIRED)
ø20sq mm AND 2400mm (L) EARTH RODS COUPLER.
25 x 3mm (THK) CU. TAPE BURIED UNDERGROUND AT LEAST 500mm DEEP

DETAIL 'C':
HEAVY DUTY EARTH CHAMBER DETAILS
N.T.S

LUKISAN SEBUT HARGA

NOTA :

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN
BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF
DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV:	DATE	DESCRIPTION	BY

PEMILIK :
MAJLIS AMANAH RAKYAT
BAHAGIAN BINAAN DAN SELENGGARAAN
TINGKAT 11, IBU PEJABAT MARA
NO 21 JALAN MARA
50609 KUALA LUMPUR

JURUTERA M&E :
"I hearby certify that these works have been designed by me in accordance with sound engineering practice and that I take full responsibility for the design and proper performance of the same"

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Ir. AHMAD ZAWAWI BIN ABDULLAH
JURUTERA M&E

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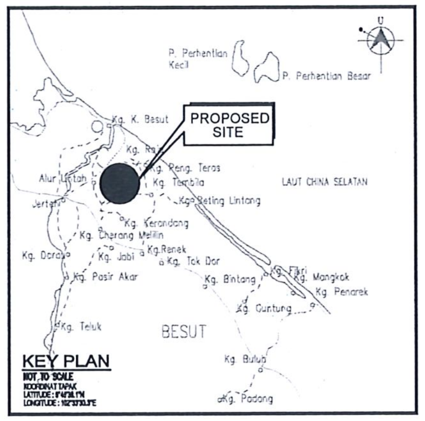
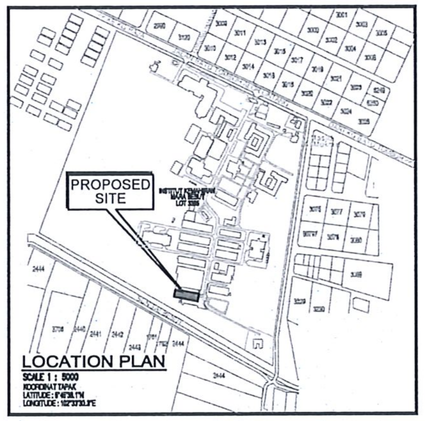
TAJUK LUKISAN :
LIGHTNING PROTECTION SYSTEM
- LEFT & RIGHT ELEVATION PLAN
- DETAILS

TARIKH : OGOS 2026	SKALA : 1: 100
DILUKIS : MHS	DISEMAK : HSN
NO. KONTRAK :	

NO. PROJEK : ECE/P-20/25	REVISION	SHEET NO.
NO. LUKISAN LP-02	00	11

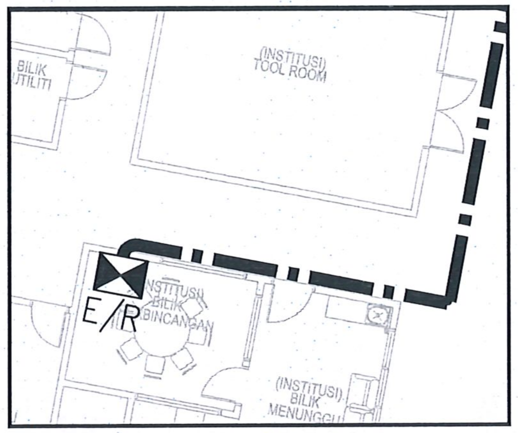
HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.



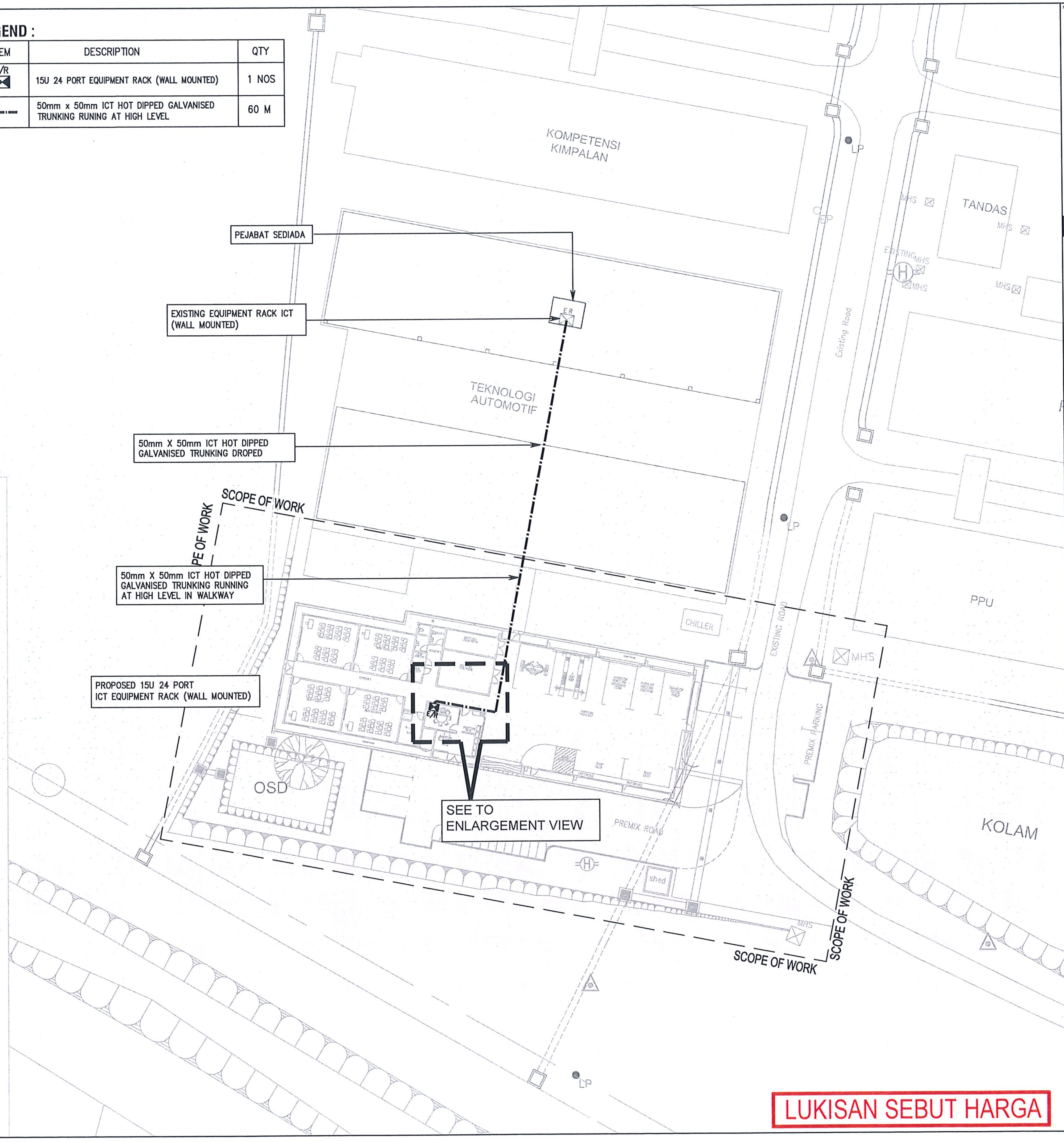


LEGEND :

ITEM	DESCRIPTION	QTY
E/R ☒	15U 24 PORT EQUIPMENT RACK (WALL MOUNTED)	1 NOS
━ · ━	50mm x 50mm ICT HOT DIPPED GALVANISED TRUNKING RUNING AT HIGH LEVEL	60 M



ENLARGEMENT VIEW
N.T.S


KOMPETENSI KIMPALAN
TANDAS
LP
MHS
EXISTING MHS
PEJABAT SEDIADA
EXISTING EQUIPMENT RACK ICT (WALL MOUNTED)
E/R
TEKNOLOGI AUTOMOTIF
Existing Road
50mm X 50mm ICT HOT DIPPED GALVANISED TRUNKING DROPED
SCOPE OF WORK
50mm X 50mm ICT HOT DIPPED GALVANISED TRUNKING RUNNING AT HIGH LEVEL IN WALKWAY
PPU
CHILLER
EXISTING ROAD
PROPOSED 15U 24 PORT ICT EQUIPMENT RACK (WALL MOUNTED)
PREMIX PARKING
OSD
SEE TO ENLARGEMENT VIEW
PREMIX ROAD
KOLAM
shed
SCOPE OF WORK

MAKLUMAT PERIHAL TAPAK
JENIS DAN NO. HAKMILIK : PN 2183
NOMBOR LOT : 3385
MUKIM : KAMPUNG RAJA
TEMPAT :
LUAS : 20800 METER PERSEGI
DAERAH : BESUT
NO SYIT PIAWAI : 3-D
NO PELAN AKUI : 11-056266
TARAF PEGANGAN : PAJAKAN 60 TAHUN
TARIKH LUPUT PAJAKAN : 02 JUN 2044
KAWASAN RIZAB : TIADA
TARIKH DAFTAR : 02 NOVEMBER 1988
CUKAI TANAH : RM25,056.00

UTARA
GIBLAT

SITE PLAN

SCALE 1 : 1,250
KOORDINAT TAPAK
LATITUDE : 5°45'38.1"N
LATITUDE : 5°45'38.1"N

LUKISAN SEBUT HARGA

NOTA :

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
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NOTA :

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JURUTERA PROFESIONAL DENGAN PERAKUAN AMALAN
ELEKTRIKAL
IR. AZNAN BIN ABIDIN
MALAYSIA

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EMAIL : pub.wfasb@gmail.com

TAJUK LUKISAN :
NETWORK SYSTEM
KEY PLAN, LOCATION PLAN & SITE PLAN
- NETWORKING EXTERNAL WORK

TARIKH : OGOS 2026	SKALA : 1 : 250
DILUKIS : MHS	DISEMAK : HSN
NO. KONTRAK :	

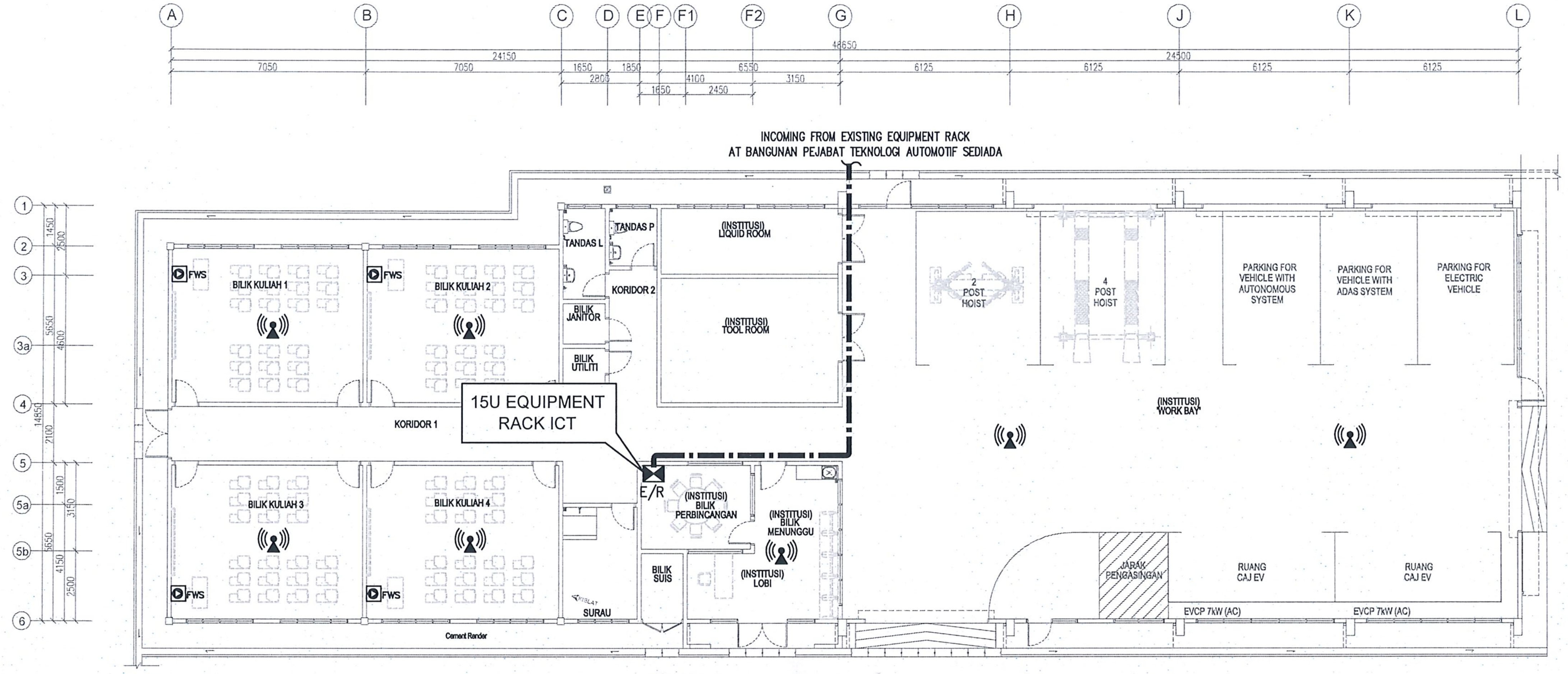
NO. PROJEK : ECE/P-20/25	REVISION	SHEET NO.
NO. LUKISAN ICT-SP	00	12

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.

NOTA :

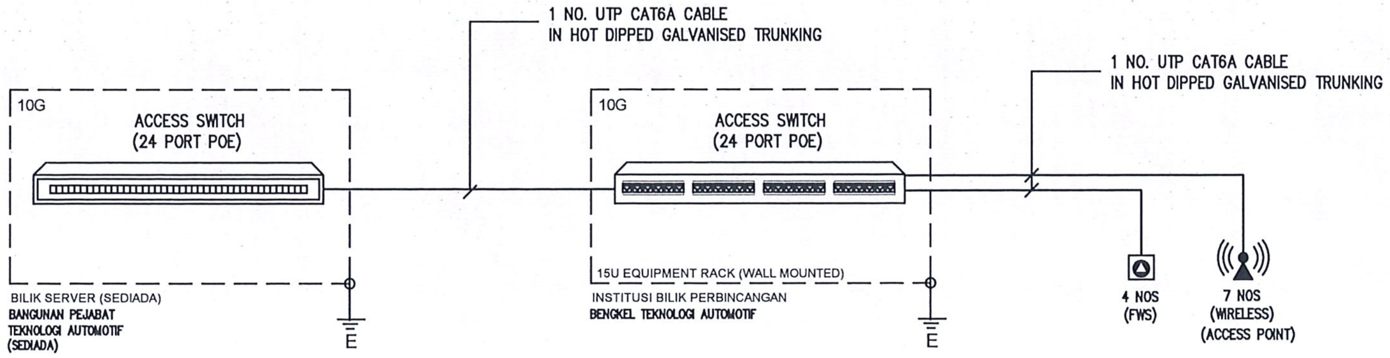
LEGEND

SYMBOL	DESCRIPTION	QTY
⊠	15U EQUIPMENT RACK ICT (WALL MOUNTED)	1 NO.
((●))	WIRELESS ACCESS POINT (RJ-45)	7 NOS
◙	FIBER WALL SOCKET OUTLET (FWS)	4 NOS
—·—	50mm X 50mm ICT HOT DIPPED GALVANISED TRUNKING RUNNING AT HIGH LEVEL	20 m



GROUND FLOOR PLAN

SCALE 1 : 100
GROSS FLOOR AREA: 702.03m2



SCHEMATIC DIAGRAM

SCALE : N.T.S

LUKISAN SEBUT HARGA

TENDER DRAWING

PROJEK (Project)
CADANGAN KERJA-KERJA MEMBINA DAN MENYIAPKAN BENGKEL BAGI PROGRAM DIPLOMA TEKNOLOGI AUTOMOTIF DI TVETMARA BESUT, TERENGGANU

UNTUK :
TETUAN MAJLIS AMANAH RAKYAT

NOTA :

REV:	DATE	DESCRIPTION	BY

PEMILIK :

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NO 21 JALAN MARA
50609 KUALA LUMPUR

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IR. AZNAN BIN ABIDIN
C112422

IR. AHMAD ZAWAWI BIN ABDULLAH
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TAJUK LUKISAN :

NETWORK SYSTEM
- GROUND FLOOR PLAN
- SCHEMATIC DIAGRAM

TARIKH : OGOS 2026	SKALA : 1 : 100
DILUKIS : MHS	DISEMAK : HSN
NO. KONTRAK :	

	REVISION	SHEET NO.
NO. PROJEK : ECE/P-20/25		
NO. LUKISAN ICT-01	00	13

HANYA DIMENSA BERANGKA SAHAJA DIKERJAKAN. KONTRATOR MESTILAH PERIKSA SEMUA DIMENSA SEMULA DI TAPAK BINAAN. SEBARANG PERSELISIHAN WAJIB DILAPURKAN DENGAN SEGERA KEPADA ARKITEK SEBELUM KERJA-KERJA DITERUSKAN.