

## LIST OF DRAWINGS

NO.	DRAWING NO.	DRAWING TITLE	REV.
<b>GENERAL DRAWINGS</b>			
1	AIS/2520016/GEN/001	LIST OF DRAWINGS	T0
2	AIS/2520016/GEN/002	GENERAL NOTE	T0
3	AIS/2520016/GEN/003	SIGNBOARD DETAILS	T0
<b>BUKIT NANAS WATER TREATMENT PLANT</b>			
1	AIS/2520016/BN/25/LIST/001	LIST OF DRAWINGS	T0
2	AIS/2520016/BN/25/KEY/001	KEY PLAN, LOCATION PLAN & SITE PLAN	T0
3	AIS/2520016/BN/25/STL/001	PERIMETER LIGHTING LAYOUT	T0
4	AIS/2520016/BN/25/STL/002	COMPOUND LIGHTING	T0
5	AIS/2520016/BN/25/SLD/001	SCHEMATIC DIAGRAM FOR F/P1 & F/P2	T0
6	AIS/2520016/BN/25/SLD/002	SINGLE LINE DIAGRAM FOR MCC	T0
7	AIS/2520016/BN/25/DTL/001	STREET LIGHTING POLE DETAIL 1	T0
8	AIS/2520016/BN/25/DTL/002	STREET LIGHTING POLE DETAIL 2	T0
9	AIS/2520016/BN/25/DTL/003	FEEDER PILLAR DETAIL AND TRENCHING DETAIL	T0
10	AIS/2520016/BN/25/STL/001A	STAIRCASE LOCATION	T0
11	AIS/2520016/DTL/S/001	STAIRCASE DETAILS (SHEET 1 OF 2)	T0
12	AIS/2520016/DTL/S/002	STAIRCASE DETAILS (SHEET 2 OF 2)	T0
<b>AMPANG INTAKE WATER TREATMENT PLANT</b>			
1	AIS/2520016/AI/25/LIST/001	LIST OF DRAWINGS	T0
2	AIS/2520016/AI/25/KEY/001	KEY PLAN, LOCATION PLAN & SITE PLAN	T0
3	AIS/2520016/AI/25/STL/001	STREET LIGHTING LAYOUT	T0
4	AIS/2520016/AI/25/SLD/001	SCHEMATIC DIAGRAM FOR FP1 & DB/SL	T0
5	AIS/2520016/AI/25/DTL/001	STREET LIGHTING POLE DETAIL 1	T0
6	AIS/2520016/AI/25/DTL/002	STREET LIGHTING POLE DETAIL 2	T0
7	AIS/2520016/AI/25/DTL/003	FEEDER PILLAR DETAIL AND TRENCHING DETAIL	T0
<b>CHERAS MILE 11 TREATMENT PLANT</b>			
1	AIS/2520016/CB11/25/LIST/001	LIST OF DRAWINGS	T0
2	AIS/2520016/CB11/25/EXT/001	OVERHEAD CABLE ROUTE	T0
3	AIS/2520016/CB11/25/STL/001	STREET LIGHTING LAYOUT	T0
4	AIS/2520016/CB11/25/SLD/001	FEEDER PILLAR SINGLE LINE DIAGRAM	T0
5	AIS/2520016/CB11/25/SLD/002	EXISTING DISTRIBUTION BOARD SINGLE LINE DIAGRAM	T0
6	AIS/2520016/CB11/25/MSB/001	MAIN SINGLE LINE DIAGRAM (EXISTING)	T0
7	AIS/2520016/CB11/25/MSB/002	MAIN SINGLE LINE DIAGRAM (NEW)	T0
8	AIS/2520016/CB11/25/MSB/003	MSB ROOM LAYOUT PLAN	T0
9	AIS/2520016/CB11/25/TFP/001	SCHEMATIC DIAGRAM FOR TEMPORARY FEEDER PILLAR	T0
10	AIS/2520016/CB11/25/DTL/001	CONCRETE POLE DETAIL	T0
11	AIS/2520016/CB11/25/DTL/002	FEEDER PILLAR DETAIL AND TRENCHING DETAIL	T0

NO.	DRAWING NO.	DRAWING TITLE	REV.
<b>SG. SERAI WATER TREATMENT PLANT</b>			
1	AIS/2520016/SS/25/LIST/001	LIST OF DRAWINGS	T0
2	AIS/2520016/SS/25/EXT/001	EXTERNAL ELECTRICAL CABLE ROUTE	T0
3	AIS/2520016/SS/25/MSB/001	SINGLE LINE DIAGRAM FOR NEW MSB	T0
4	AIS/2520016/SS/25/TFP/001	SCHEMATIC DIAGRAM FOR TEMPORARY FEEDER PILLAR	T0
5	AIS/2520016/MB/25/MB/LT/001	MAIN BUILDING - LIGHTING, SMALL POWER LAYOUT AND SINGLE LINE DIAGRAM	T0
6	AIS/2520016/SS/25/CB/LT/001	CHEMICAL BUILDING - LIGHTING, SMALL POWER LAYOUT AND SINGLE LINE DIAGRAM	T0
7	AIS/2520016/SS/25/CDR/LT/001	CHEMICAL DOSING ROOM - LIGHTING, SMALL POWER LAYOUT AND SINGLE LINE DIAGRAM	T0
8	AIS/2520016/MB/25/PSH/LT/001	PENDOSAN SODIUM HYPOCHLORITE ROOM - LIGHTING, SMALL POWER LAYOUT AND SINGLE LINE DIAGRAM	T0
9	AIS/2520016/MB/25/GH/LT/001	GUARD HOUSE - LIGHTING, SMALL POWER LAYOUT AND SINGLE LINE DIAGRAM	T0
10	AIS/2520016/SS/25/MB/LNG/001	MAIN BUILDING - LIGHTNING PROTECTION SYSTEM	T0
11	AIS/2520016/SS/25/CB/LNG/001	CHEMICAL BUILDING - LIGHTNING PROTECTION SYSTEM	T0
12	AIS/2520016/SS/25/GH/LNG/001	GUARD HOUSE - LIGHTNING PROTECTION SYSTEM	T0
13	AIS/2520016/SS/25/DTL/001	STREET LIGHTING POLE DETAIL	T0
14	AIS/2520016/SS/25/DTL/002	LIGHTNING PROTECTION SYSTEM DETAIL	T0

CLIENT :	
 <b>Air Selangor</b> PENGURUSAN AIR SELANGOR SDN. BHD. <small>(201401006213)</small>	
Pengurusan Air Selangor Sdn. Bhd. Level 4, Tower E, Bangsar Trade Centre (Plaza Pantai), 59200 Kuala Lumpur	
CLIENT'S STAMP & SIGNATURE	
CONSULTANT:	
 <b>MINCONSULT SDN. BHD.</b> <small>(Company No. : 58835-P)</small>	
minconsult Lot 6, Jalan 51A / 223, 46100 Petaling Jaya, Selangor, Malaysia. Tel : 603-79545757, 79525757 Fax : 603-79547373, 79547575	
PROJECT TITLE :	
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs	
APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER	
CONSULTANTS CHOP & SIGNATURE	
 IR. ZAHROL AHMAT C113512 MALAYSIA	
for Minconsult Sdn Bhd Lot 6, Jalan 51A/223 46100 Petaling Jaya Tel: 03-79545757, 79525757 Fax: 03-79547373, 79547575	
CONTRACT TITLE :	
DRAWING TITLE :	
LIST OF DRAWINGS	
DATE FEB 2023 SCALE N.T.S	
DRAWN YMN CHECKED UMI KALSON	
DESIGNED GANNA APPROVED IR.ZAHROL	
DRAWING NUMBER : AIS/2520016/GEN/001 REVISION TO	
TENDER DRAWING	

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
**MINCONSULT SDN. BHD.**  
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Tel : 603-79545757, 79525757  
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PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CONTRACT TITLE :

DRAWING TITLE :

GENERAL NOTES

DATE	SCALE	NTS
YMN	UMI KALSON	
GANNA	IR. ZAHROL	
DRAWING NUMBER :		REVISION
AIS/2520016/GEN/002		T0



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TENDER DRAWING

## GENERAL NOTES:

- THE DRAWINGS ONLY PROVIDE AN OVERVIEW OF THE DESIGN AND IT DOES NOT ILLUSTRATE COMPLETE EXTEND OF WORKS AND DOES NOT COVER COMPLETE COMPONENTS OR EQUIPMENT NEEDED OF THE WORKS ALL PLANTS, EQUIPMENT AND MATERIALS REQUIRED FOR AND MAINTENANCE SHALL BE DEEMED INCLUDED IN THE SCOPE OF CONTRACTOR.
- ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE RELEVANT PROJECT SPECIFICATIONS, ARCHITECTURAL, CIVIL, STRUCTURAL, BUILDING SERVICES ROOM SCHEDULE AND ANY OTHER RELEVANT DOCUMENTS.
- THE LEGEND LABEL AS INDICATED IN THE DRAWINGS DOES NOT REFLECT THE ACTUAL QUANTITY REQUIRED FOR THE COMPLETE RELIABLE AND EFFICIENT FUNCTIONING OF THE SYSTEMS.
- THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL PLANTS, EQUIPMENT AND MATERIALS TO MEET THE PROJECT SPECIFICATIONS AND REQUIREMENTS OF AUTHORITIES GOVERNMENT AGENCIES AND CLIENT. THE DIMENSION AS INDICATED IN THE DRAWINGS NOT CONSTRUE AS A CONSTRAINT TO MEET THE ABOVE OBLIGATIONS.
- ALL ELECTRICAL SERVICES DRAWINGS MAY NOT BE TO SCALE.
- THE PROVISIONS OF THE ELECTRICAL SERVICES ARE SUBJECT TO ENERGY COMMISSION (EC) AND ANY OTHER AUTHORITIES APPROVAL.
- WALL AND FLOOR OPENINGS DEDICATED FOR THE WORKS UNDER THIS CONTRACT SHALL BE SEALED BY THE CONTRACTOR. THE SEALING MATERIALS SHALL BE FIRE RATED TO THE SAME RATING AS THE CORRESPONDING WALL AND FLOOR.
- ALL CABLING SHALL BE AS PER DRAWINGS TYPE COMPLYING WITH RELEVANT STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE SPECIFIED.
- CABLE SERVING STATUTORY/FIRE RELATED EMERGENCY CIRCUITS LOADS SHALL BE FIRE RESISTANT (MINERAL INSULATED) TYPE CABLE
- THE CONTRACTOR SHALL INSTALL COMPLETE CABLE CONTAINMENT INCLUDING CABLE LADDERTRAY, TRUNKING, CONDUIT UNDER FLOOR TRUNKING, DUCT ACCESSORIES THROUGHOUT FOR CABLE RUNNING FOR THE COMPLETION OF BUILDING SERVICES SYSTEM INSTALLATION.
- SURFACE CONDUIT SYSTEM SHALL BE USED IN M&E ROOMS WHERE DOWNFEED PANELS ARE PROVIDED, PLANT ROOMS, EQUIPMENT ROOMS, BEHIND DETACHABLE PANEL AND ABOVE FALSE CEILING AREA WHILE CONCEALED CONDUIT SYSTEM SHALL BE ADOPTED FOR OTHER AREAS UNLESS OTHERWISE SPECIFIED.
- THE EXACT ROUTING AND LEVELS OF ALL CABLE CONTAINMENT SYSTEM SHALL BE FULLY COORDINATED WITH OTHER SERVICES IN FURTHER IN BIM REVIT COLLABORATION BEFORE INSTALLATION.
- THE CONTRACTOR SHALL PROVIDE THE CONDUIT, TRUNKING, CABLE TRAY SYSTEM FOR MAIN, SUB-MAIN AND FINAL CIRCUITS INCLUDING SMALL POWER, LIGHTING, CONTROL, SIGNAL AND WIRING ACCESSORIES AS PER THE DRAWING AND WHERE NECESSARY.
- HANGERS, BRACKETS AND ANY OTHERS SUPPORTING EQUIPMENT SHALL BE ARRANGED IN SUCH A WAY TO MAXIMIZE FLEXIBILITY FOR FUTURE MODIFICATION AND ADDITION OF FUTURE CONNECTIONS OF SERVICES.
- CONCRETE PLINTHS AND ANY OTHER STRUCTURAL SUPPORT SHALL BE PROVIDED FOR MAJOR ELECTRICAL EQUIPMENT SUCH AS GENERATOR SET, COMPACT SUB-STATION AND ANY OTHER EQUIPMENT AS SPECIFIED IN DRAWING.
- ALL ELECTRICAL INSTALLATIONS SHALL COMPLY WITH THE LATEST IEC STANDARDS AND MALAYSIAN STANDARDS.

## LIGHTING AND SMALL POWER

- EXACT LOCATIONS OF LUMINAIRES AND WIRING ACCESSORIES SHALL BE COORDINATED BY THE MAIN CONTRACTOR.
- FINAL CIRCUIT FOR 13A SWITCH SOCKET OUTLETS SHALL BE IN RADIAL CIRCUIT.
- THE EXACT LOCATION OF POWER POINTS AND LUMINAIRES INSIDE THE BUILDING SHALL BE COORDINATED WITH THE ARCHITECT AND INTERIOR DESIGN REPRESENTATIVES.

## MAIN AND SUB-MAIN DISTRIBUTION

- ALL CIRCUIT BREAKERS SHALL BE SELECTED TO PROVIDE FULL DISCRIMINATION.
- CABLE CHANGE BOX AND SUBSEQUENT CABLE CONNECTION SHALL BE PROVIDED TO ALL ELECTRICAL INSTALLATION WHEN INCOMING OR OUTGOING CABLE CANNOT BE TERMINATED INTO THE EQUIPMENT DUE TO THE CABLE SIZE. THE CABLE BETWEEN CABLE CHANGE BOX AND THE EQUIPMENT SHALL BE HIGHER THAN THE RATED CURRENT OF THE EQUIPMENT. THE CABLE TYPE SHALL BE THE SAME AS THE INCOMING OR OUTGOING CABLE.
- ALL INCOMING AND COUPLER CIRCUIT BREAKERS FOR MSE SHALL BE 4P TYPE.
- SEPARATE PROTECTIVE CONDUCTOR SHALL BE PROVIDED. THE MATERIAL OF THE PROTECTIVE CONDUCTOR SHALL BE AS THAT OF THE PHASE CONDUCTOR. THE TABLE BELOW IS USED AS A GUIDE WHEN THERE IS NON-AVAILABILITY OF THE OPERATING TIME OF DISCONNECTION DEVICE) CALCULATION OF SEPARATE PROTECTION CONDUCTOR TO BE PROVIDED AS PER TABLE BELOW

CROSS-SECTIONAL AREA OF PHASE CONDUCTOR (S) sq. mm	MINIMUM CROSS-SECTIONAL AREA OF THE CORRESPONDING PROTECTIVE CONDUCTOR sq. mm
S < 16	S
16 < S < 35	16
S > 35	S/2

- POWER ENERGY METERS SHALL BE PROVIDED FOR MONITORING OF ENERGY USAGE AT THE INCOMING OF MAIN SWITCHBOARDS, SUB-SWITBOARDS AND AT LOCATIONS AS SHOWN IN DRAWING.

- Icu & Ics FOR INCOMING MCCB

Icu = 50kA @ 400V

Ics = 100 of Icu

- Icu & Ics FOR OUTGOING MCCB

Icu = 50kA @ 400V

Ics = 50 of Icu

- SWITCHBOARD CONSTRUCTION :-

1. CUBICLE FRONT AND REAR ACCESS (Minimum)

- FORM of SEPARATION : FORM 2B
- THICKNESS of FRAME : 2.5mm
- THICKNESS of PANEL : 2.0mm
- INDEX of PROTECTION : IP 41

2. CUBICLE FRONT ACCESS (Minimum)

- FORM of SEPARATION : FORM 2B
- THICKNESS of FRAME : 2.5mm
- THICKNESS of PANEL : 2.0mm
- INDEX of PROTECTION : IP 41

3. WALL MOUNTED (Minimum)

- FORM of SEPARATION : FORM 1
- THICKNESS of PANEL : 2.0mm
- INDEX of PROTECTION : IP 41
- MOUNTING HEIGHT : 900mm from F.F.L. (BOTTOM OF PANEL)

- OTHERS

- SWITCHBOARD LABELING SHALL BE OF MINIMUM 10mm IN HEIGHT AND INCLUDE :-

- SWITCHBOARD MANUFACTURER

- NAME AND LOCATION OF THE OUT-GOINGS AND INCOMING SUPPLY

- ALL INDICATORS LIGHT SHALL BE OF LED TYPE

- ALL SWITHBOARDS SHALL BE FABRICATED TO SUIT THE ROOM SIZE

- EARTHING

- CONNECTION OF THE EARTHING CONDUCTORS TO THE EARTH ELECTRODES SHALL BE BY EXOTHERMIC WELDED CONNECTIONS.

- EARTH ELECTRODES SHALL HAVE PURE COPPER UNIFORMLY MOLECULARLY BONDED ONTO A HIGH TENSILE STEEL CORE TO A MINIMUM OF THICKNESS OF 0.25mm.

- TABLE 4 - DIMENSIONS OF THE MAIN EARTHING BARS AND EARTHING CONDUCTORS (L-S1 - Page S14 - 3 OF 5)

PROSPECTIVE EARTH FAULT CURRENT (I) FOR 1 sec. DURATION	MAIN EARTHING BAR (width x thickness)	EARTHING CONDUCTORS (No. x Copper Tape Size)
I ≤ 10 kA	25 mm x 3 mm	2 SETS OF 1 x 25mm x 3mm
10 kA < I ≤ 25 kA	25 mm x 6 mm	2 SETS OF 1 x 25mm x 3mm
25 kA < I ≤ 30 kA	30 mm x 6 mm	2 SETS OF 2 x 25mm x 3mm
30 kA < I ≤ 40 kA	40 mm x 6 mm	2 SETS OF 2 x 25mm x 3mm
40 kA < I ≤ 50 kA	50 mm x 6 mm	2 SETS OF 2 x 25mm x 3mm

## STREET LIGHTING

- ALL WORKS WITHIN R.O.W TO BE COORDINATED AND AGREED BY THE CLIENT AUTHORITY.
- THE CONTRACTOR SHALL SUPPLY, DELIVER, INSTALL, TEST AND COMMISSION OF THE STREET LIGHTING IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENT.
- THE CONTRACTOR SHALL DISMANTLE, REMOVE AND RETURN TO LOCAL AUTHORITY STORAGE AREA FOR ALL EXISTING ROAD LIGHTING AND MAKE GOOD FOR ALL AFFECTED AREA.
- ALL EXISTING FEEDER PILLAR, DUCTS, CABLES OF ROAD LIGHTING SHALL BE PROTECTED DURING CONSTRUCTION.
- THE INTERVAL BETWEEN STREET LIGHTS SHALL BE AS PER AUTHORITY REQUIREMENT.
- ALL ROAD CROSSING SHALL BE 150mm DIA HDPE PN10 DUCT.
- THE LIGHTING LEVELS SHALL BE AS FOLLOWS.

TYPE	$I_{avg}$ (cdm sq)	$U_o$	$U_L$	$T_i$	MAINTENANCE FACTOR	AVERAGE (Lux)	UNIFORMITY $E_{min} E_{avg}$
SECONDARY ROAD	2.0 cdm sq	>0.4	>0.7	<12.5	>0.8	30	>0.4

## CABLE CONTAINMENT

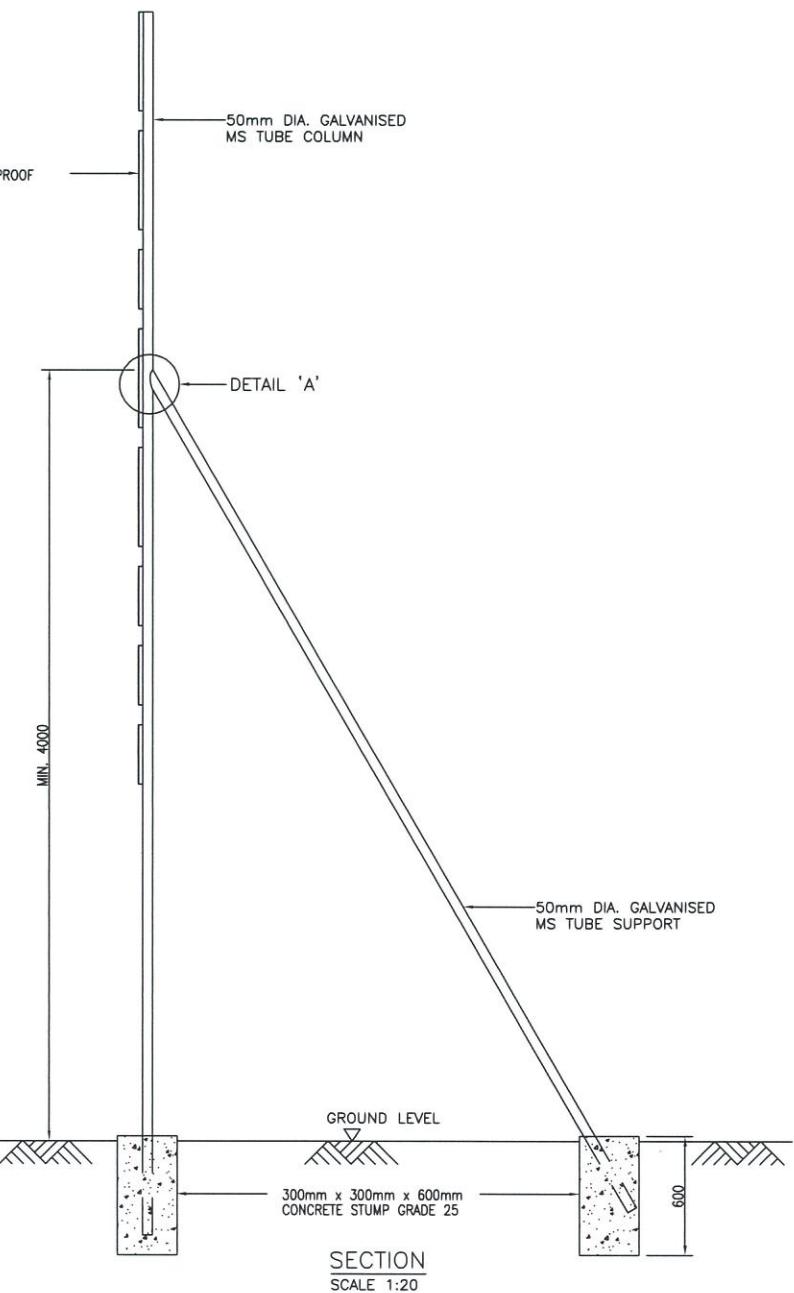
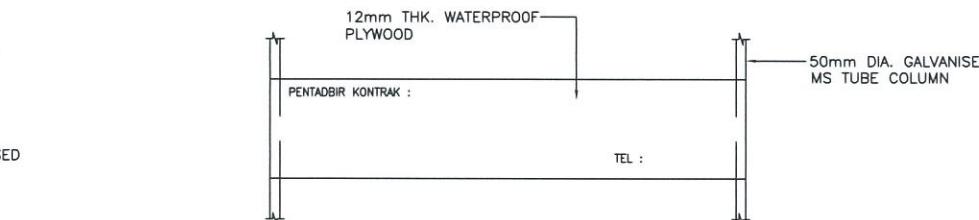
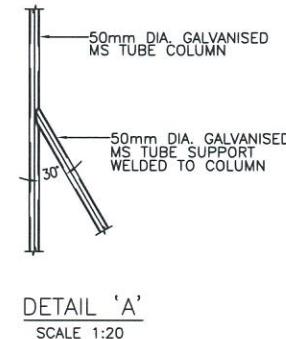
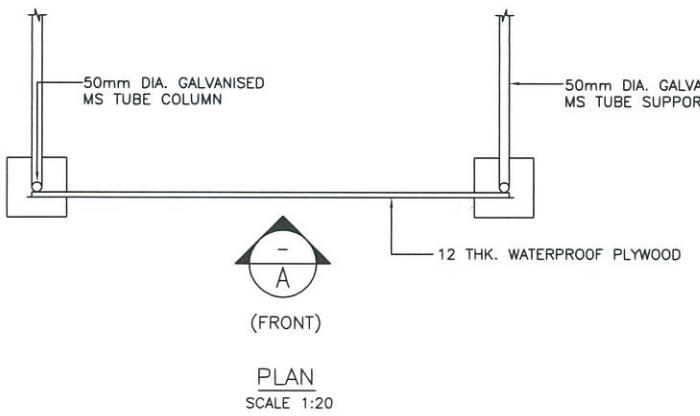
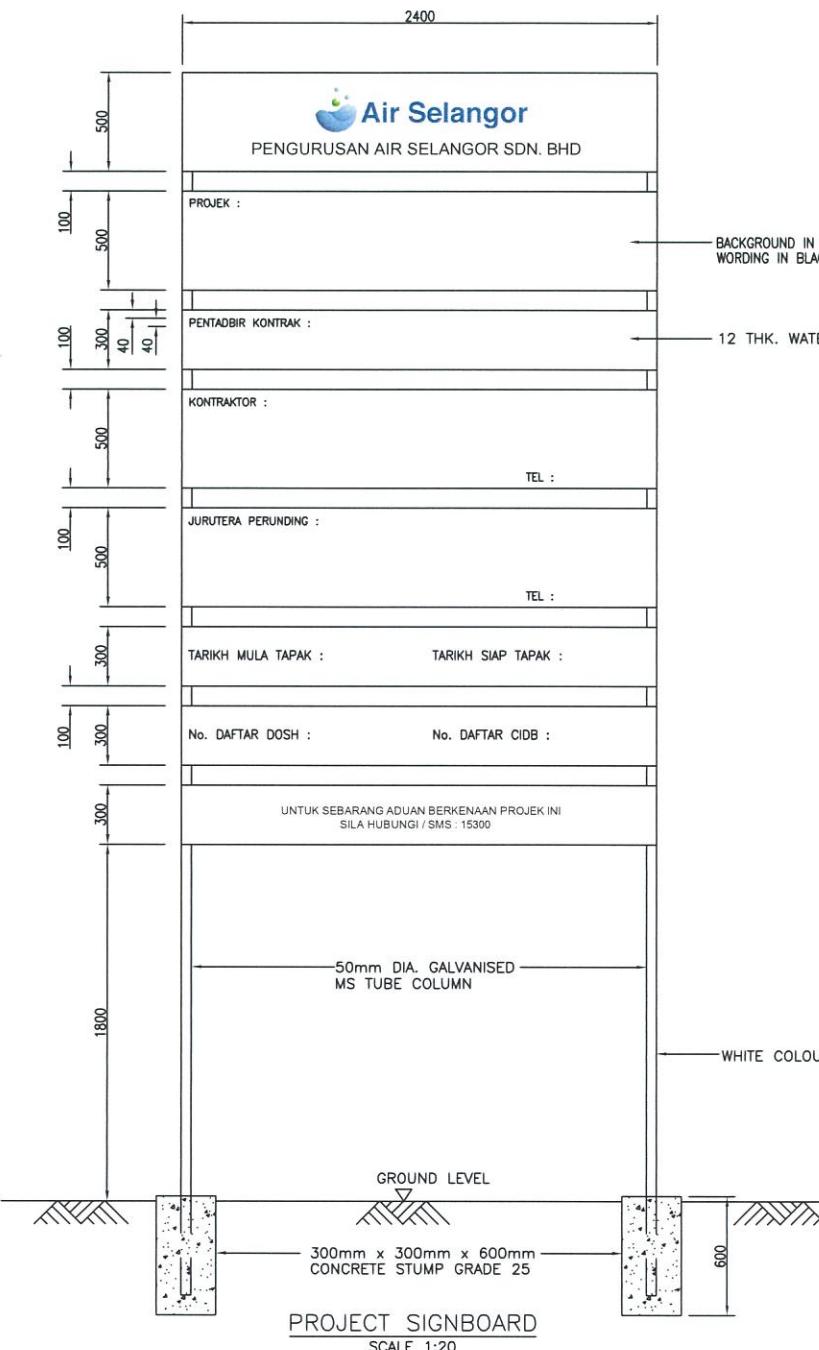
- ALL CABLE CONTAINMENT SHALL BE IMPLEMENTED TO GO FROM MSB ROOM, RESPECTIVE RISER & METER ROOM.
- CONTRACTOR CONTRACTOR SHALL PROVIDE DUCTING AND JUNCTION BOX FOR LANDSCAPE LIGHTING, INTERNAL & COMMON AREA.

## DIVERSITY FACTOR

ITEM	DIVERSITY FACTOR
1. LIGHTINGFAN - OFFICE, HALL, SCHOOL, QUARTERS	0.8
2. LIGHTINGFAN - MOSQUE	0.9
3. 13A SWITCH SOCKET OUTLET - MOSQUE, HALL, OFFICE	0.4
4. 13A SWITCH SOCKET OUTLET - QUARTERS	0.5
5. 15A SWITCH SOCKET OUTLET	1
6. AC MOTOR PUMP	1
7. OUTDOOR LIGHTING	1
8. WATER HEATER	1
9. COOKER UNIT	1
10. ISOLATOR	1

GENERAL NOTES

TENDER DRAWING



for Minconsult Sdn Bhd  
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46100 Petaling Jaya  
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Fax: 03-79547373, 79547575

NOTES :		
1. CONTRACTOR TO SUBMIT SHOP DRAWING FOR APPROVAL BEFORE CONSTRUCT.		
CLIENT :  Air Selangor PENGURUSAN AIR SELANGOR SDN. BHD. (201401006213) Pengurusan Air Selangor Sdn. Bhd. Level 4, Tower E, Bangsar Trade Centre (Plaza Pantai), 59200 Kuala Lumpur		
CLIENT'S STAMP & SIGNATURE		
CONSULTANT:  MINCONSULT SDN. BHD. (Company No. : 58835-P) minconsult Lot 6, Jalan 51A / 223, 46100 Petaling Jaya, Selangor, Malaysia. Tel : 603-79545757, 79525757 Fax : 603-79547373, 79547575		
PROJECT TITLE : EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs		
APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER		
CONSULTANTS CHOP & SIGNATURE		
REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023
CONTRACT TITLE :		
DRAWING TITLE :		
SIGNBOARD DETAILS		
DATE	SCALE	NTS
FEB 2023		
DRAWN	CHECKED	UMI KALSOM
YMN		
DESIGNED	APPROVED	IR.ZAHROL
GANNA		
DRAWING NUMBER : AIS/2520016/GEN/003		REVISION
		T0

TENDER DRAWING

CLIENT :  
  
**Air Selangor**  
PENGURUSAN AIR SELANGOR SDN. BHD.  
(201401006213)  
Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
  
**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
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PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE



for **Minconsult Sdn Bhd**  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CONTRACT TITLE :

BUKIT NANAS WTP

DRAWING TITLE :

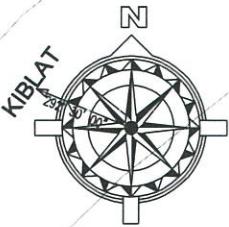
LIST OF DRAWINGS

DATE	FEB 2023	SCALE	NTS
DRAWN	YMN	CHECKED	UMI KALSON
DESIGNED	GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER :			REVISION
AIS/2520016/BN/25/LIST/001			TO

TENDER DRAWING

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1	AIS/2520016/BN/25/LIST/001	LIST OF DRAWINGS	T0
2	AIS/2520016/BN/25/KEY/001	KEY PLAN, LOCATION PLAN & SITE PLAN	T0
3	AIS/2520016/BN/25/STL/001	PERIMETER LIGHTING LAYOUT	T0
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10	AIS/2520016/BN/25/STL/001A	STAIRCASE LOCATION	T0
11	AIS/2520016/DTL/S/001	STAIRCASE DETAILS (SHEET 1 OF 2)	T0
12	AIS/2520016/DTL/S/002	STAIRCASE DETAILS (SHEET 2 OF 2)	T0



WILAYAH PERSEKUTUAN KUALA LUMPUR  
DISTRICT OF KUALA LUMPUR  
MUKIM OF BANDAR KUALA LUMPUR  
STANDARD SYIT 86 - A



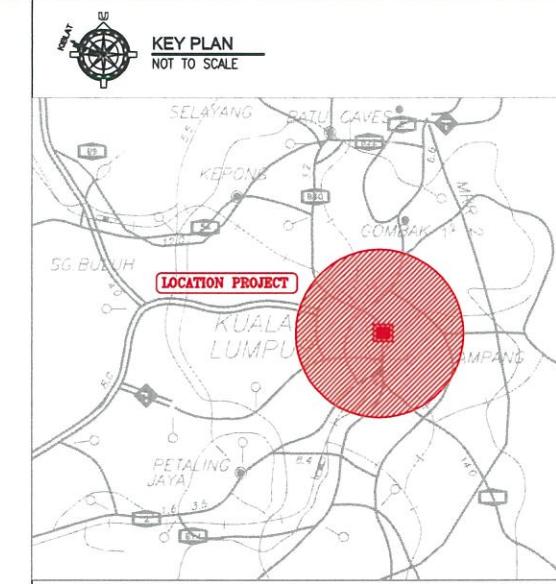
for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/123  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

LEGENDA

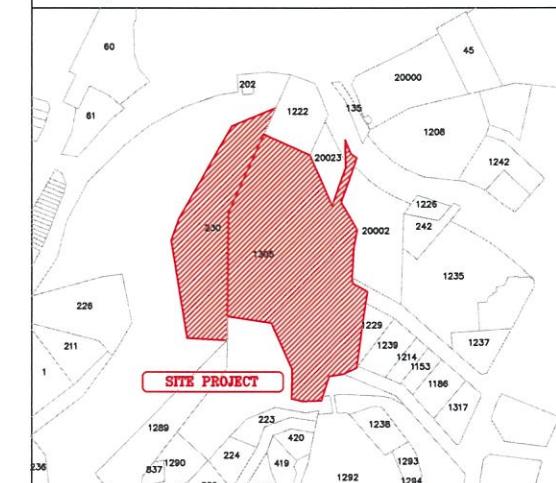
	PROPOSED LOT
	BOUNDARY STONE
	PIPE BOUNDARY
	NO MARK
	CONTUR
	METALLED ROAD
	CONCRETE DRAIN
	TEMPORARY BENCHMARK
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<input type="checkbox"/> ST	SEPTIC TANK
	LAMP POST
	ELECTRICAL POST
	ELECTRICAL CABLE
	SIGNBOARD
-xxx-	FENCE
	GATE
	TREE

NOTE

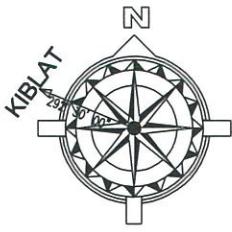
1. All measurements are in meter(s).
  2. Datum horizontal control are based on lot 1305 (PA110284).
  3. Based coordinate are in Cassini-Soldner Geocentric Selangor State (GDM2000).
  4. All Reduced Level (RL) are based on MYRTKNet GPS observation and adjusted by Mean Sea Level (MSL) at Jabatan Ukur dan Pemetaan Malaysia (JUPEM).



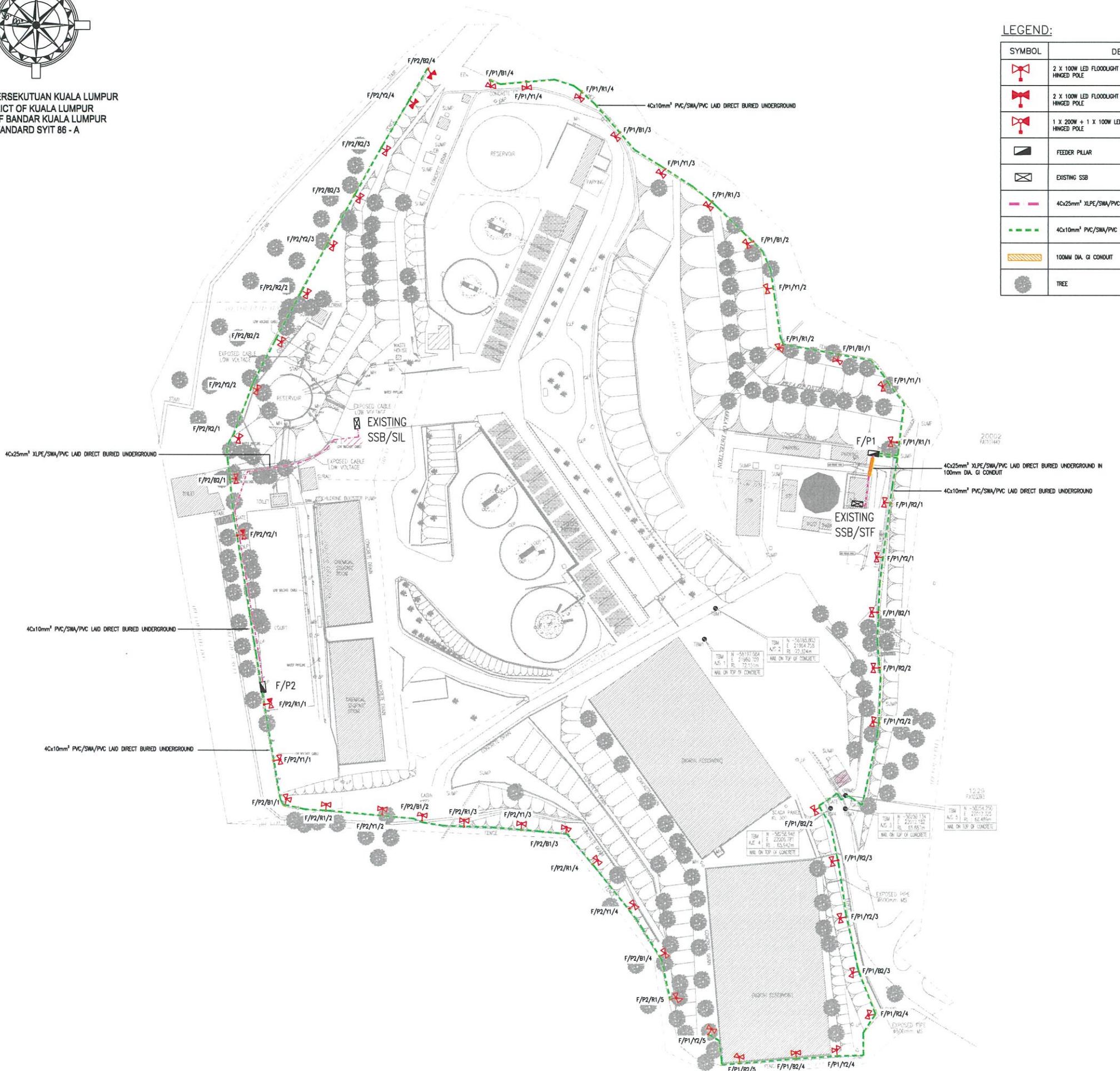
LOCATION PLAN  
NOT TO SCALE  
STD SYT: 86-A



		Air Selangor	
PENGURUSAN AIR SELANGOR SDN. BHD. (201401006211)			
Pengurusan Air Selangor Sdn. Bhd. Level 4, Tower E, Bangsar Trade Centre (Plaza Pantai), 59200 Kuala Lumpur			
CLIENT'S STAMP & SIGNATURE			
CONSULTANT:   MINCONSULT SDN. BHD. (Company No. : 58835-P) minconsult Lot 6, Jalan 51A / 223, 46100 Petaling Jaya, Selangor, Malaysia. Tel : 603-79545757, 79525757 Fax : 603-79547373, 79547575			
PROJECT TITLE : EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs			
APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER			
CONSULTANTS CHOP & SIGNATURE			
REVISION	DESCRIPTION	DATE	
TO	TENDER STAGE	FEB 2023	
CONTRACT TITLE : BUKIT NANAS WTP			
DRAWING TITLE : KEY PLAN, LOCATION PLAN & SITE PLAN			
DATE	FEB 2023	SCALE	N.T.S
DRAWN	YMN	CHECKED	UMI KALSUM
DESIGNED	GANNA	APPROVED	I.R.ZAHROL
DRAWING NUMBER : AIS/2520016/BN/25/KEY/001			REVISION
			T0



WILAYAH PERSEKUTUAN KUALA LUMPUR  
DISTRICT OF KUALA LUMPUR  
MUKIM OF BANDAR KUALA LUMPUR  
STANDARD SYIT 86 - A



LEGEND:

SYMBOL	DESCRIPTION	QTY
	2 X 100W LED FLOODLIGHT MOUNTED ON 8m HIGH HDG MIDT HINGED POLE	46
	2 X 100W LED FLOODLIGHT MOUNTED ON 8m HIGH HDG MIDT HINGED POLE	2
	1 X 200W + 1 X 100W LED FLOODLIGHT MOUNTED ON 8m HIGH HDG MIDT HINGED POLE	2
	FEEDER PILLAR	2
	EXISTING SSB	
	40x25mm <sup>2</sup> XLPE/SMA/PVC LAID DIRECT BURIED UNDERGROUND	
	40x10mm <sup>2</sup> PVC/SMA/PVC LAID DIRECT BURIED UNDERGROUND	
	100MM DIA. GI CONDUIT	
	TREE	

CLIENT :  
 Air Selangor  
PENGURUSAN AIR SELANGOR SDN. BHD.  
(201401006213)

Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

**CLIENT'S STAMP & SIGNATURE**

**CONSULTANT:**  
 MINCONSULT SDN. BHD.  
(Company No. : 58835-P)

Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT  
NANAS, AMPANG INTAKE, CHERAS MILE 11  
AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

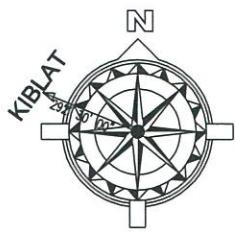
CONTRACT TITLE :

BUKIT NANAS WTP

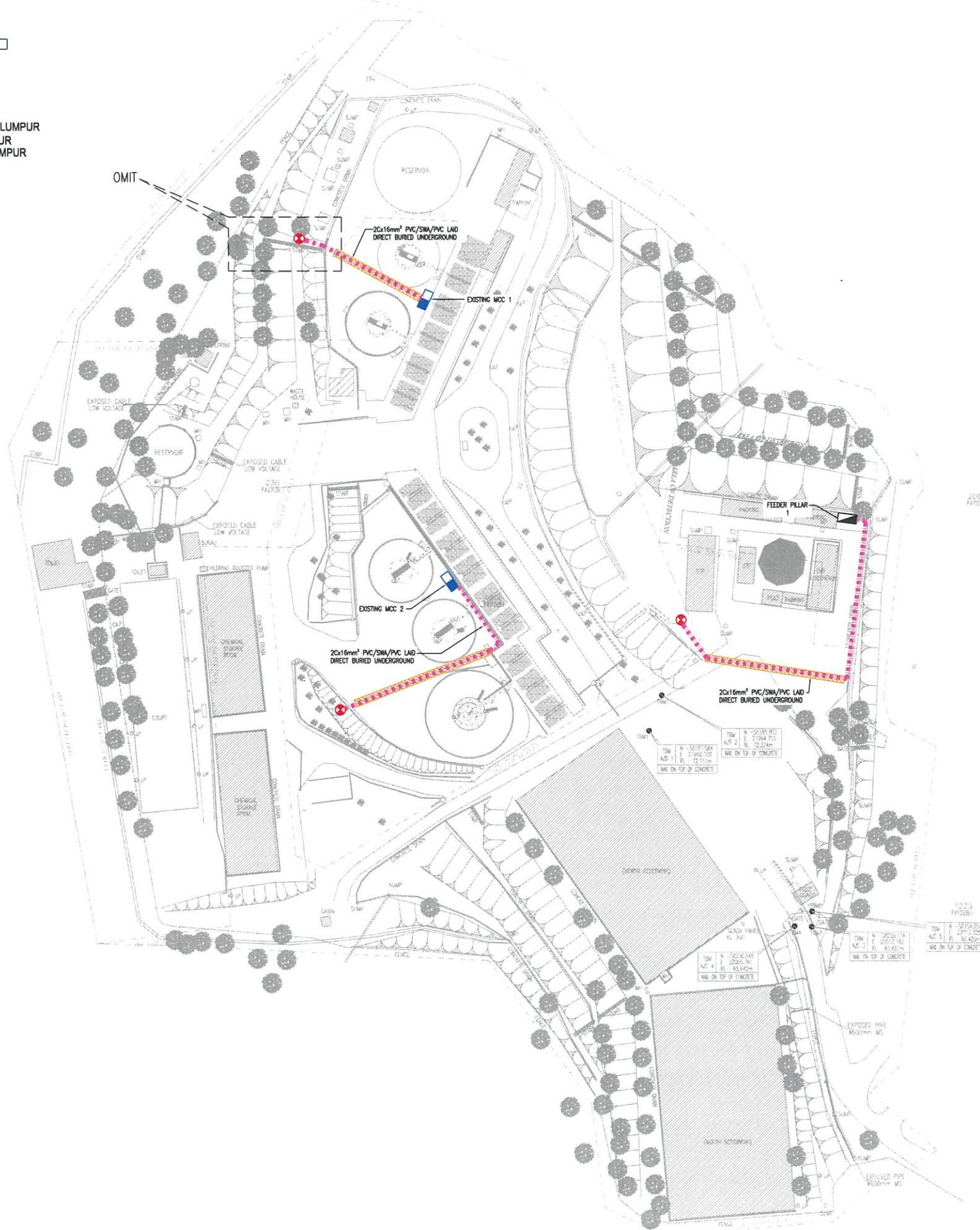
DRAWING TITLE :

## PERIMETER LIGHTING LAYOUT

DATE	FEB 2023	SCALE	1:750
DRAWN	YMN	CHECKED	UMI KALSOM
DESIGNED	GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER : AIS/2520016/BN/25/STL/001			REVISION TO



WILAYAH PERSEKUTUAN KUALA LUMPUR  
DISTRICT OF KUALA LUMPUR  
MUKIM OF BANDAR KUALA LUMPUR  
STANDARD SYIT 86-A



LEGEND:

SYMBOL	DESCRIPTION	QTY
✖	3 X 200W LED FLOODLIGHT ON 12m HIGH FOLDABLE POLE HDG MGT HINGED POLE	3
■ ■ ■	2x16mm <sup>2</sup> PVC/SWA/PVC LAID DIRECT BURIED UNDERGROUND	
▨	100MM DIA GI CONDUIT	
■	EXISTING MCC	
■	FEEDER PILLAR	
●	TREE	

CLIENT :  
**Air Selangor**  
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(201401006213)  
Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
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46100 Petaling Jaya, Selangor, Malaysia.  
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Fax : 603-79547373, 79547575

PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

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Lot 6, Jalan 51A/223  
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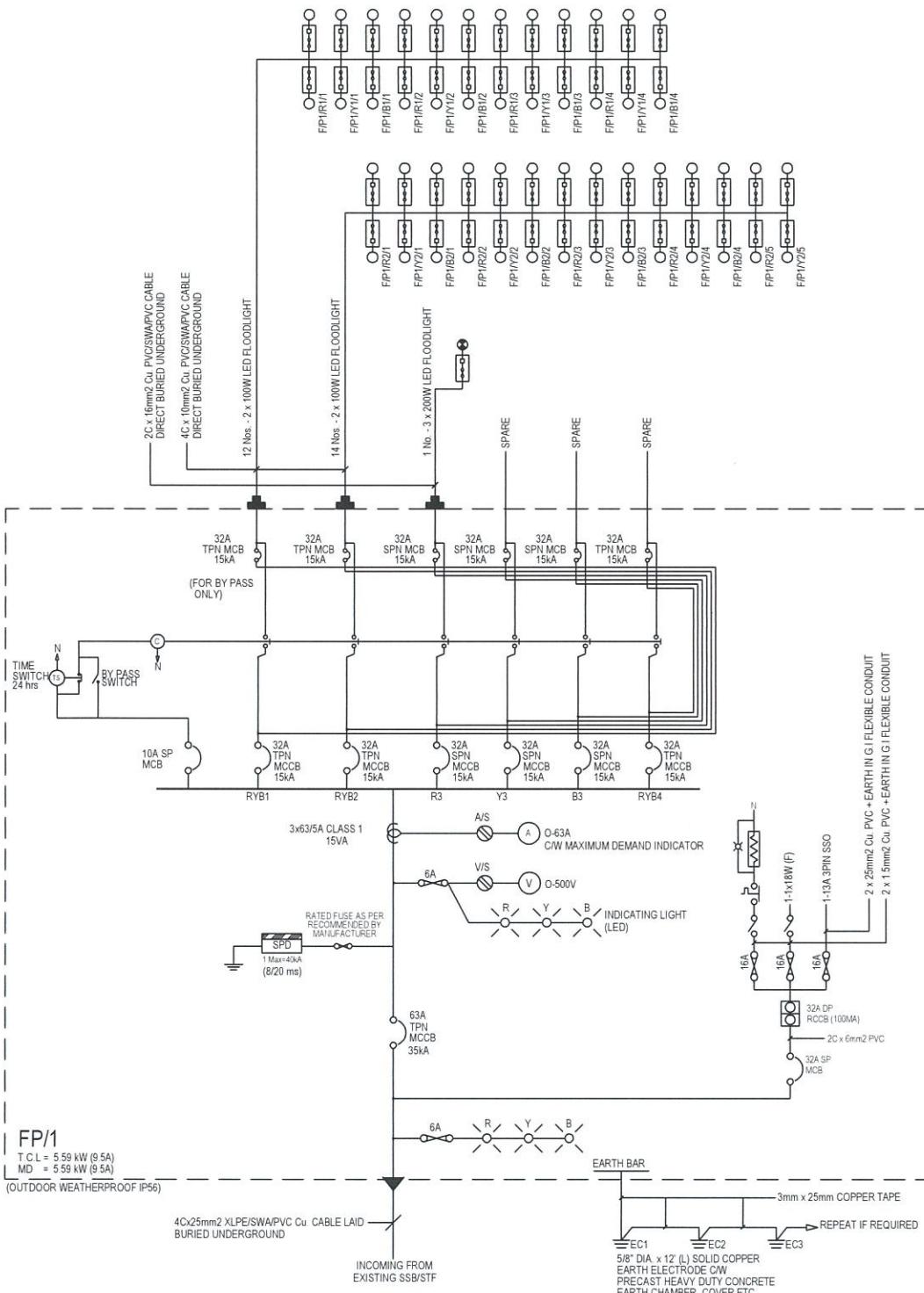
REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

CONTRACT TITLE :  
BUKIT NANAS WTP

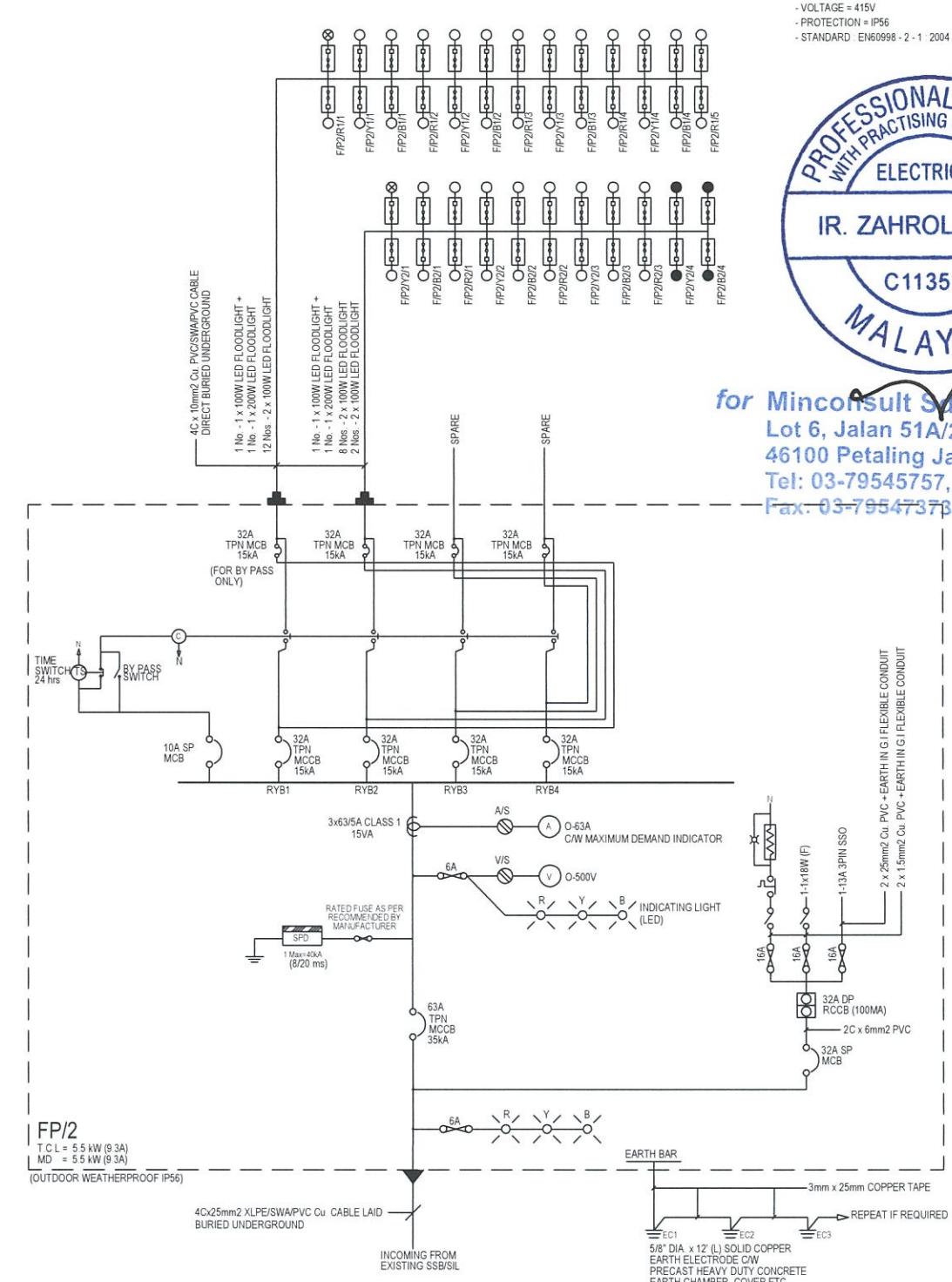
DRAWING TITLE :  
COMPOUND LIGHTING

DATE	FEB 2023	SCALE	1:750
DRAWN	YMN	CHECKED	UMI KALSON
DESIGNED	GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER :			REVISION
AIS/2520016/BN/25/STL/002			TO

TENDER DRAWING



SCHEMATIC DIAGRAM FOR FEEDER PILLAR F/P1



SCHEMATIC DIAGRAM FOR FEEDER PILLAR F/P2

SYMBOL	DESCRIPTION
	1x100W LED FLOODLIGHT ON 6m HEIGHT POLE
	1x100W LED FLOODLIGHT ON 8m HEIGHT POLE
	1 x 200W LED FLOODLIGHT ON 8m HEIGHT POLE
	3 x 200W LED FLOODLIGHT ON 12m HEIGHT POLE
	DIGITAL PHOTOCELL
	TIME SWITCH
	SELECTOR SWITCH
	HEAT SHRINKABLE TERMINATION
	CABLE GLAND

NO

- 1) TIME SWITCH : ORBIS
  - 2) STANDARD FEEDER PILLAR
    - VOLTAGE = 415V
    - PROTECTION = IP56
    - STANDARD EN60998 - 2 - 1 : 2004



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
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The image shows the Air Selangor logo, which consists of a blue stylized water droplet icon above the word "Air Selangor" in a large, blue, sans-serif font. Below the logo, the text "PENGURUSAN AIR SELANGOR SDN. BHD." is written in a smaller, black, sans-serif font. Underneath that, the registration number "(201401006213)" is shown in parentheses. At the bottom, there is a horizontal line separating the company information from the stamp area.

**CLIENT'S STAMP & SIGNATURE**

**CONSULTANT:**  
 **MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

**PROJECT TITLE :**  
**EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs**

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

**CONTRACT TITLE :**

BUKIT NANAS WTP

10 of 10

SCHEMATIC DIAGRAM FOR  
F/P1 & F/P2

DATE	FEB 2023	SCALE	N T S
DRAWN	YMN	CHECKED	UMI KALSUM
DESIGNED	GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER :			REVISION
AIS/2520016/BN/25/SLD/001			T0

TENDER DRAWING

CONSULTANT:  
**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
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EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPS

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CONTRACT TITLE :

BUKIT NANAS WTP

DRAWING TITLE :

SINGLE LINE DIAGRAM FOR MCC

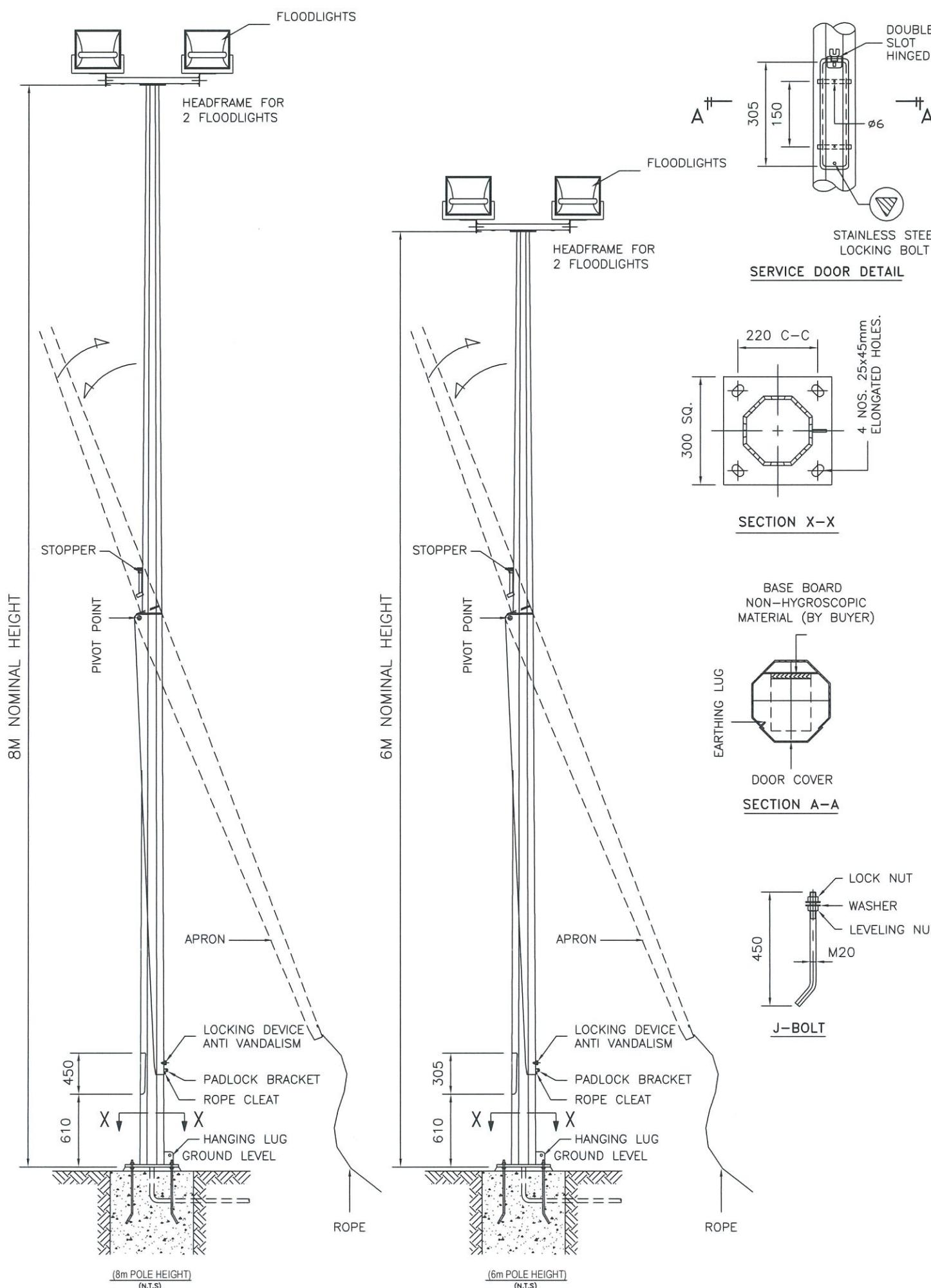


for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

DATE : FEB 2023	SCALE : N.T.S
DRAWN : YMN	CHECKED : UMI KALSON
DESIGNED : GANNA	APPROVED : IR.ZAHROL
DRAWING NUMBER : AIS/2520016/BN/25/SLD/002	REVISION TO

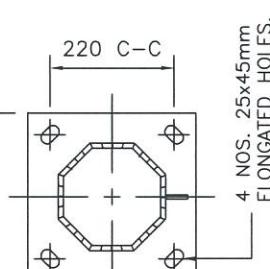
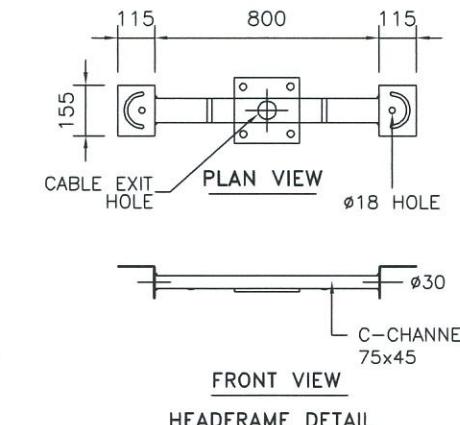
TENDER DRAWING

FITTING LOAD : 30KG

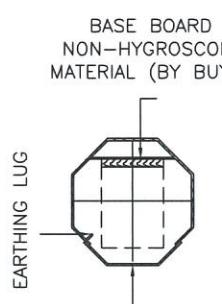


## TECHNICAL SPECIFICATIONS

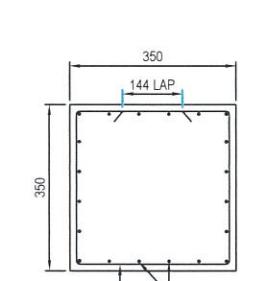
- THE COLUMNS SHALL BE DESIGNED TO WITHSTAND WIND SPEED OF 35M PER SECOND, TOPOGRAPHY, GROUND ROUGHNESS & STATISTICAL FACTOR OF 1.0.
  - COLUMNS SHALL BE MANUFACTURED IN COMPLIANCE TO BRITISH STANDARD BS EN 40.
  - MATERIALS USED FOR LIGHTING COLUMNS SHALL COMPLY WITH BS EN 10025 S275 /JIS G3101 SS400.
  - LIGHTING COLUMNS SHALL BE LONGITUDINALLY SEAM WELDED CONFORM TO BS 5135 BY AUTOMATIC CONTINUOUS METAL INERT GAS (MIG) PROCESS.
  - COLUMNS SHALL BE ANTI-CORRODED BY HOT-DIP GALVANISED, COMPLIANCE WITH GALVANIZING STANDARD BS EN ISO 1461.
  - SERVICES DOOR DIMENSIONS ARE GIVEN AS A GUIDE ONLY. THE ENGINEER MUST SATISFY HIMSELF THAT DIMENSIONS GIVEN ARE ADEQUATE FOR THE INSTALLATION OF THE REQUIRED CONTROL GEAR.
  - ALL DIMENSION SHALL BE IN(MM), UNLESS OTHERWISE SPECIFIED.
  - MATERIAL TOLERANCE:  
UNLESS OTHERWISE SPECIFIED, ALL MATERIAL TOLERANCES SHALL BE IN ACCORDANCE TO:  
BS EN 10029 (STEEL PLATE)  
BS EN 10255 (STEEL TUBE / HOLLOW SQUARE)  
BS EN 10056 (STEEL ANGLE)



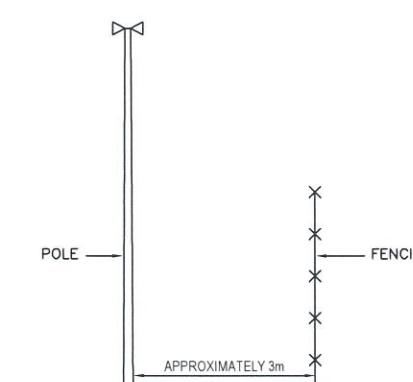
SECTION X-X



BOOK COVER



SECTIONAL PLAN X-X  
UNFACTORED AXIAL LOAD 2 kN  
UNFACTORED MOMENT 19 kNm  
(N.T.S.)



1. THE DISTANCE OF THE POLE FROM THE FENCING WILL BE DETERMINED BASED ON SITE CONDITION
  2. CONTRACTOR TO INDICATE AND PEG THE LOCATION OF POLE FOR THE C.A APPROVAL BEFORE CONSTRUCTION.



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

CLIENT : **Air Selangor**

**PENGURUSAN AIR SELANGOR SDN. BHD.**  
(201401006213)

Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

---

CONSULTANT:

**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)

**minconsult**

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46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

---

PROJECT TITLE :

EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

---

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

---

CONSULTANTS CHOP & SIGNATURE

---

REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

---

CONTRACT TITLE :

**BUKIT NANAS WTP**

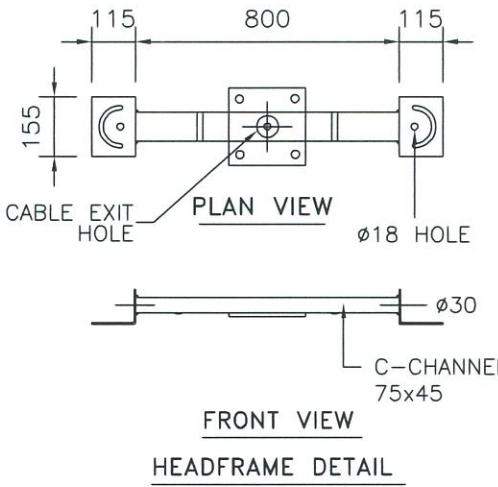
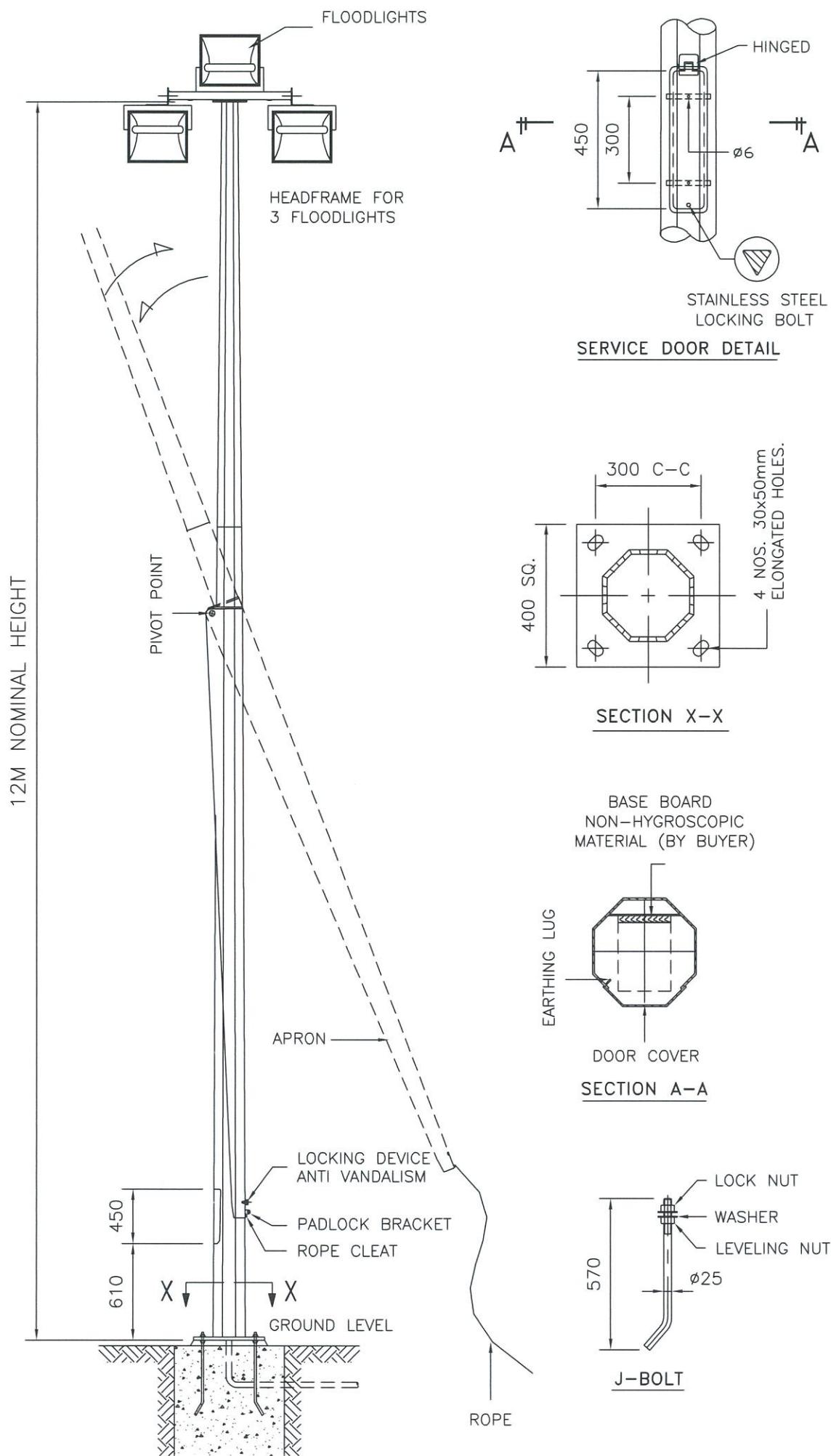
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DRAWING TITLE :

**STREET LIGHTING POLE  
DETAIL 1**

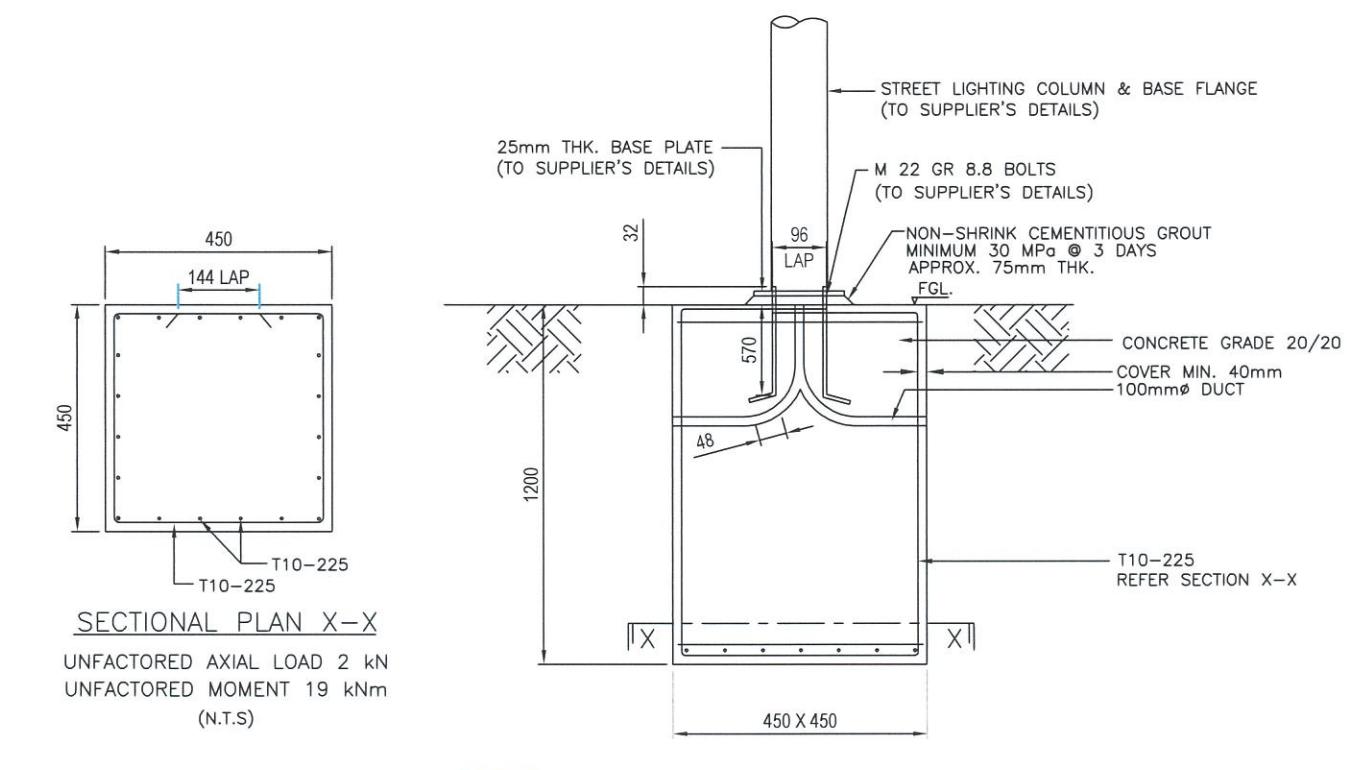
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DATE	SCALE
FEB 2023	N.T.S
DRAWN : YMN	CHECKED : UMI KALSUM
DESIGNED : GANNA	APPROVED : IR ZAHROL
DRAWING NUMBER : AIS/2520016/BN/25/DTL/001	
REVISION TO	



## TECHNICAL SPECIFICATIONS

- THE COLUMNS SHALL BE DESIGNED TO WITHSTAND WIND SPEED OF 35M PER SECOND, TOPOGRAPHY, GROUND ROUGHNESS & STATISTICAL FACTOR OF 1.0.
- COLUMNS SHALL BE MANUFACTURED IN COMPLIANCE TO BRITISH STANDARD BS EN 40.
- MATERIALS USED FOR LIGHTING COLUMNS SHALL COMPLY WITH BS EN 10025 S275 /JIS G3101 SS400.
- LIGHTING COLUMNS SHALL BE LONGITUINALLY SEAM WELDED CONFORM TO BS 5135 BY AUTOMATIC CONTINUOUS METAL INERT GAS (MIG) PROCESS.
- COLUMNS SHALL BE ANTI-CORRODED BY HOT-DIP GALVANISED, COMPLIANCE WITH GALVANIZING STANDARD BS EN ISO 1461.
- SERVICES DOOR DIMENSIONS ARE GIVEN AS A GUIDE ONLY. THE ENGINEER MUST SATISFY HIMSELF THAT DIMENSIONS GIVEN ARE ADEQUATE FOR THE INSTALLATION OF THE REQUIRED CONTROL GEAR.
- ALL DIMENSION SHALL BE IN(MM), UNLESS OTHERWISE SPECIFIED.
- MATERIAL TOLERANCE: UNLESS OTHERWISE SPECIFIED, ALL MATERIAL TOLERANCES SHALL BE IN ACCORDANCE TO:  
BS EN 10029 (STEEL PLATE)  
BS EN 10255 (STEEL TUBE / HOLLOW SQUARE)  
BS EN 10056 (STEEL ANGLE)



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

CLIENT :  
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PENGURUSAN AIR SELANGOR SDN. BHD.  
(201401006213)

Pengurusan Air Selangor Sdn. Bhd.  
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59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

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**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CONTRACT TITLE :

BUKIT NANAS WTP

DRAWING TITLE :

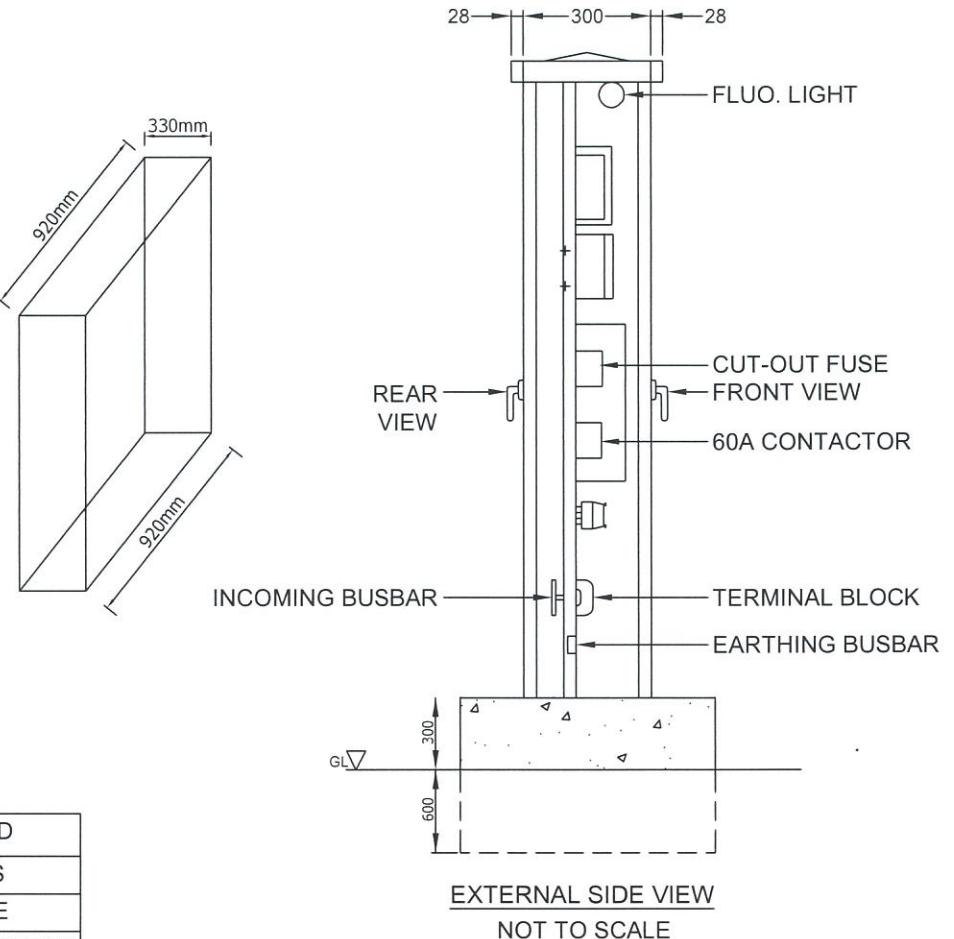
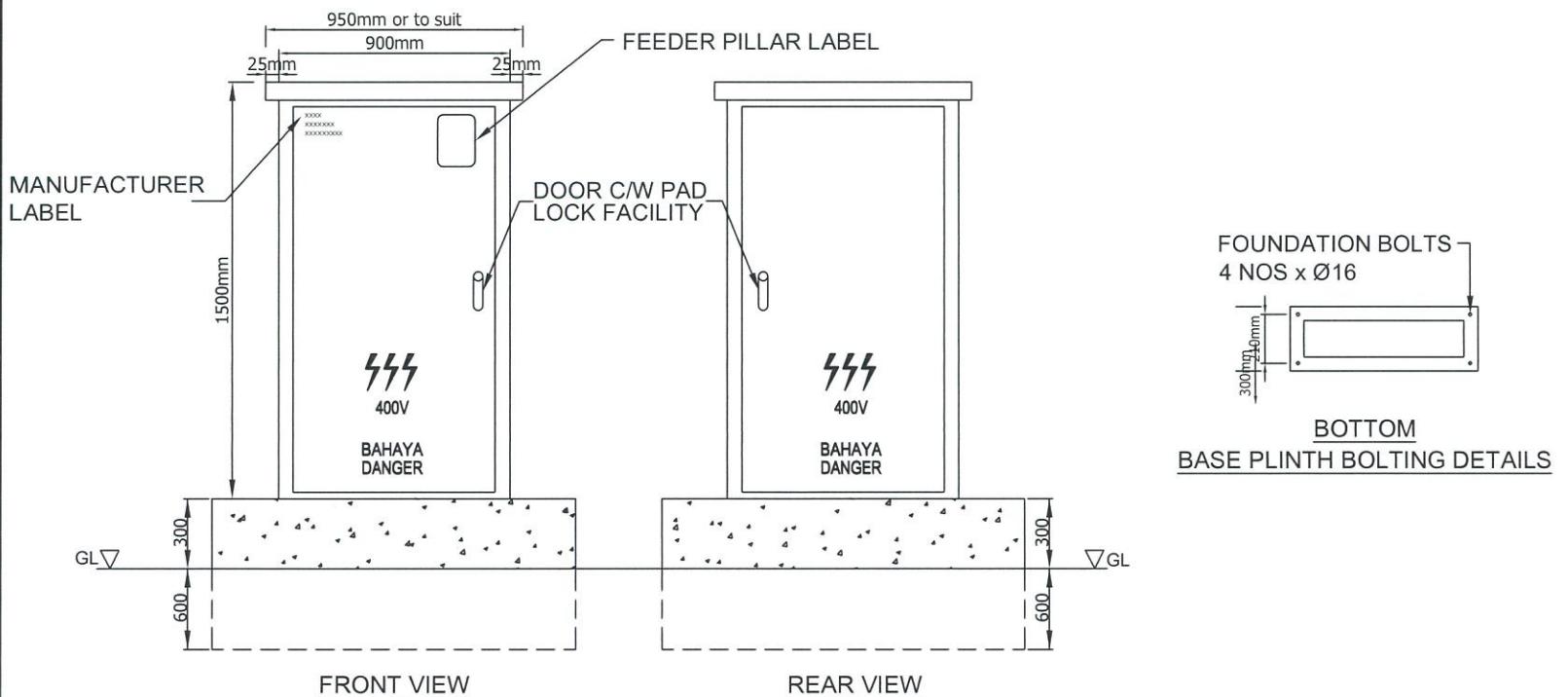
STREET LIGHTING POLE  
DETAIL 2

DATE	SCALE	NTS
DRAWN	YMN	CHECKED
DESIGNED	GANNA	APPROVED

TENDER DRAWING

AIS/2520016/BN/25/DTL/002

TO



LEGEND	DESCRIPTION	BRAND
F/L	18-WATT FLUO.LIGHT	SJ LITE
MCB	MINIATURE CIRCUIT BREAKER	ABB
SW	ON/OFF SWITCH	B.LINE
ELCB + MMAR	EARTH LEAKAGE C. BREAKER TYPE A SURGE IMMUNITY 3KA C/W MOTORISED. MULTI AUTO RECLOSE	DUVAL

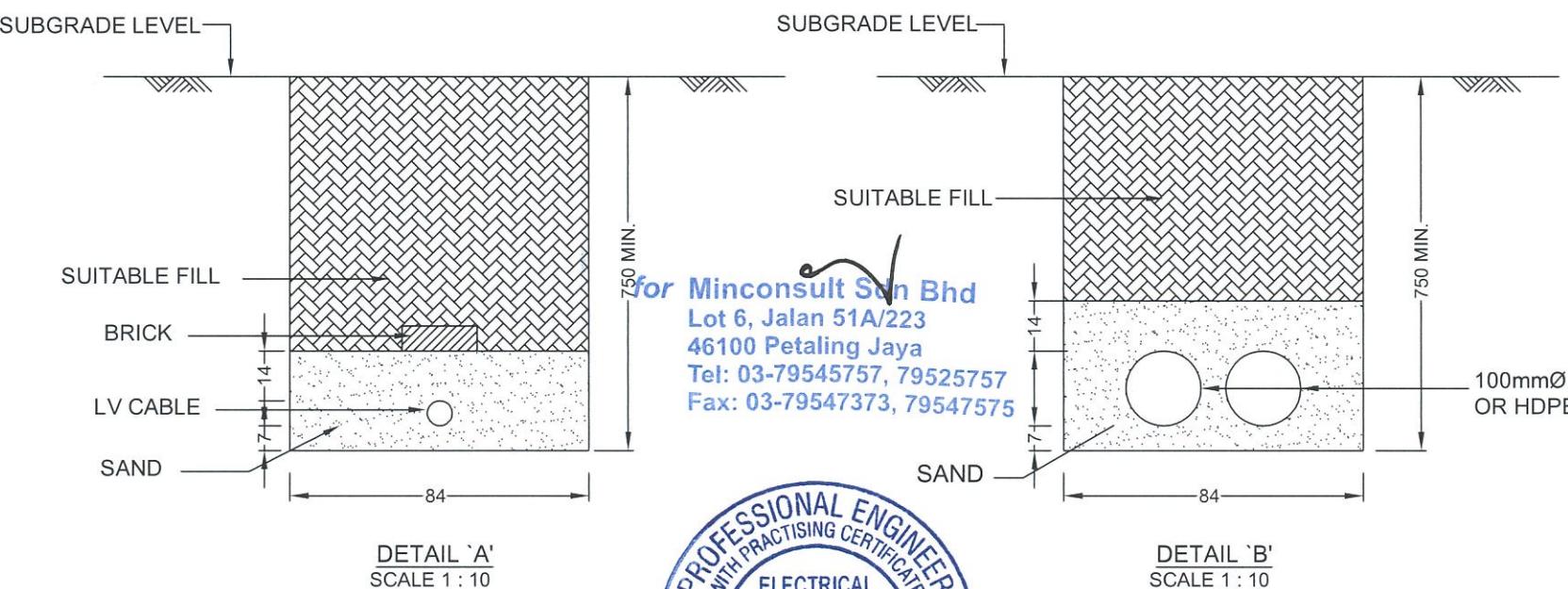
LEGEND	DESCRIPTION	BRAND
TS	24-HOUR TIME SWITCH	ORBIS
PS	0 - 3 POSITION SELECTOR SWITCH	B.LINE
C	TP ACI CONTACTOR	TOGAMI/SEIMENS
S/S/O	12A SWITCH SOCKET OUTLET	MK

FINISHING : PAINTING COLOR AS PER AIS STANDARD.

MATERIAL : 2.0 MM ELECTROGALVANISED SHEET THICKNESS 2MM

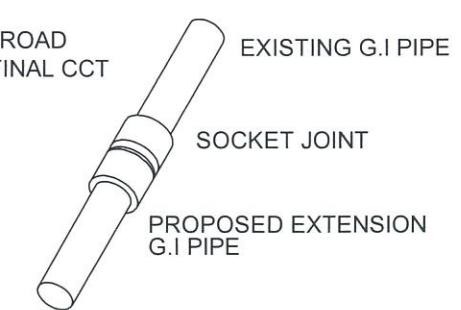
NOTE

- 1) DIMENSION SHOWN IS INDICATIVE ONLY SUBJECT TO DETAIL BY THE MANUFACTURER OF THE FEEDER PILLAR
  - 2) FEEDER PILLAR SHALL BE APPLIED WITH ANTI STICK COATING AND SHOULD HAVE MIN. 3 YEARS MANUFACTURER WARRANTY FOR THE ANTI STICK COATING PAINT



## TRENCHING FOR LV CABLES AT SHOULDER & VERGE

## G.I DUCTS FOR LV CABLES ACROSS ROADS



## DETAIL 1

TYPICAL DETAIL OF THE  
PROPOSED EXTENSION G.I.  
PIPE

CLIENT : **Air Selangor**

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CLIENT'S STAMP & SIGNATURE

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**minconsult**

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PROJECT TITLE :

EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

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APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

---

CONSULTANTS CHOP & SIGNATURE

---

REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

CONTRACT TITLE :

**BUKIT NANAS WTP**

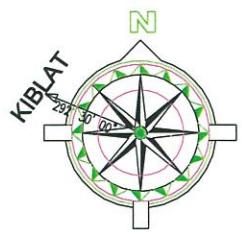
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DRAWING TITLE :

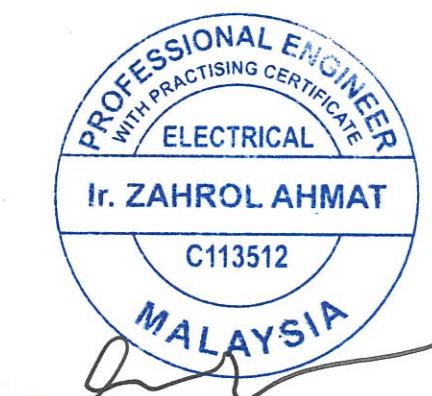
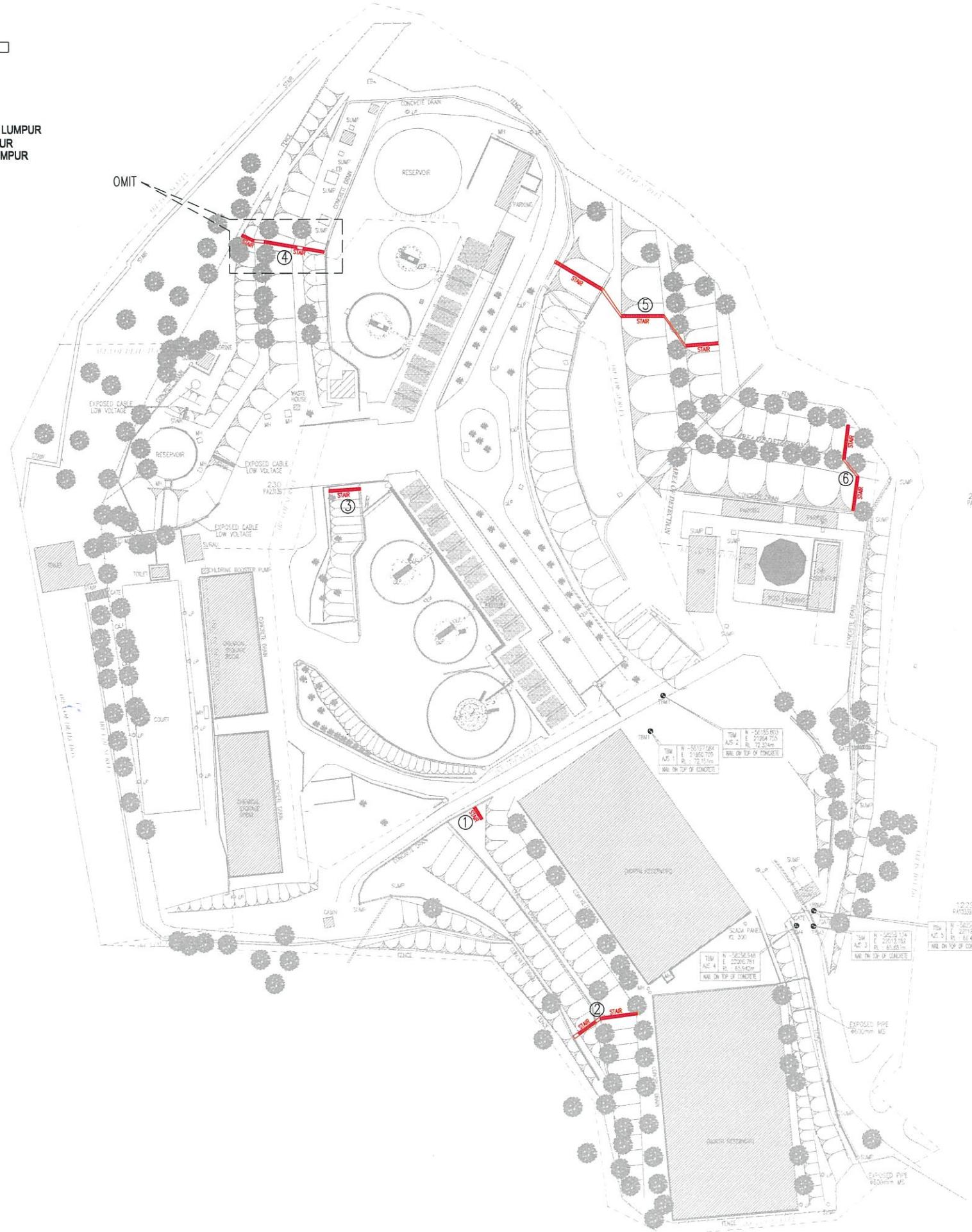
**FEEDER PILLAR DETAIL AND TRENCHING DETAIL**

---

DATE	SCALE	NTS
FEB 2023	UMI KALSUM	
DRAWN BY MN	CHECKED	
DESIGNED BY GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER :		REVISION
AIS/2520016/BN/25/DTL/003		T0



WILAYAH PERSEKUTUAN KUALA LUMPUR  
DISTRICT OF KUALA LUMPUR  
MUKIM OF BANDAR KUALA LUMPUR  
STANDARD SYIT 86 - A



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
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Fax: 03-79547373, 79547575

CLIENT :  
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PENGURUSAN AIR SELANGOR SDN. BHD.  
(201401005213)  
Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
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59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

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(Company No.: 58835-P)  
minconsult  
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46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

PROJECT TITLE :  
SUPPLY, INSTALL, TESTING AND  
COMMISSIONING FOR ELECTRICAL WORKS  
AND OTHER ASSOCIATED WORKS  
AT BUKIT NANAS, AMPANG INTAKE, CHERAS  
MILE 11, AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	MARCH 2022

CONTRACT TITLE :

BUKIT NANAS WTP

DRAWING TITLE :

STAIRCASE LOCATION

DATE : MAR 2022	SCALE 1:750
DRAWN : MAS	CHECKED : UMI KALSOM
DESIGNED : GANNA	APPROVED : IR.ZAHROL
DRAWING NUMBER : AIS/2520016/BN/25/STL/001A	REVISION TO

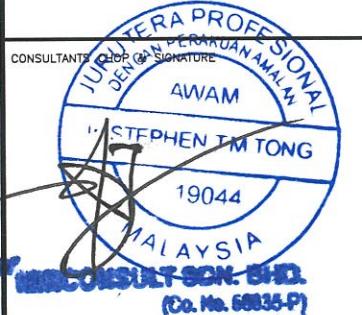
TENDER DRAWING

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
**MINCONSULT SDN. BHD.**  
 (Company No. : 58835-P)  
 minconsult  
 Lot 6, Jalan 51A / 223,  
 46100 Petaling Jaya, Selangor, Malaysia.  
 Tel : 603-79545757, 79527575  
 Fax : 603-79547373, 79547575

PROJECT TITLE :  
 SUPPLY, INSTALL, TESTING AND  
 COMMISSIONING FOR ELECTRICAL WORKS  
 AND OTHER ASSOCIATED WORKS  
 AT BUKIT NANAS, AMPANG INTAKE, CHERAS  
 MILE 11, AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER



REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	MARCH 2022

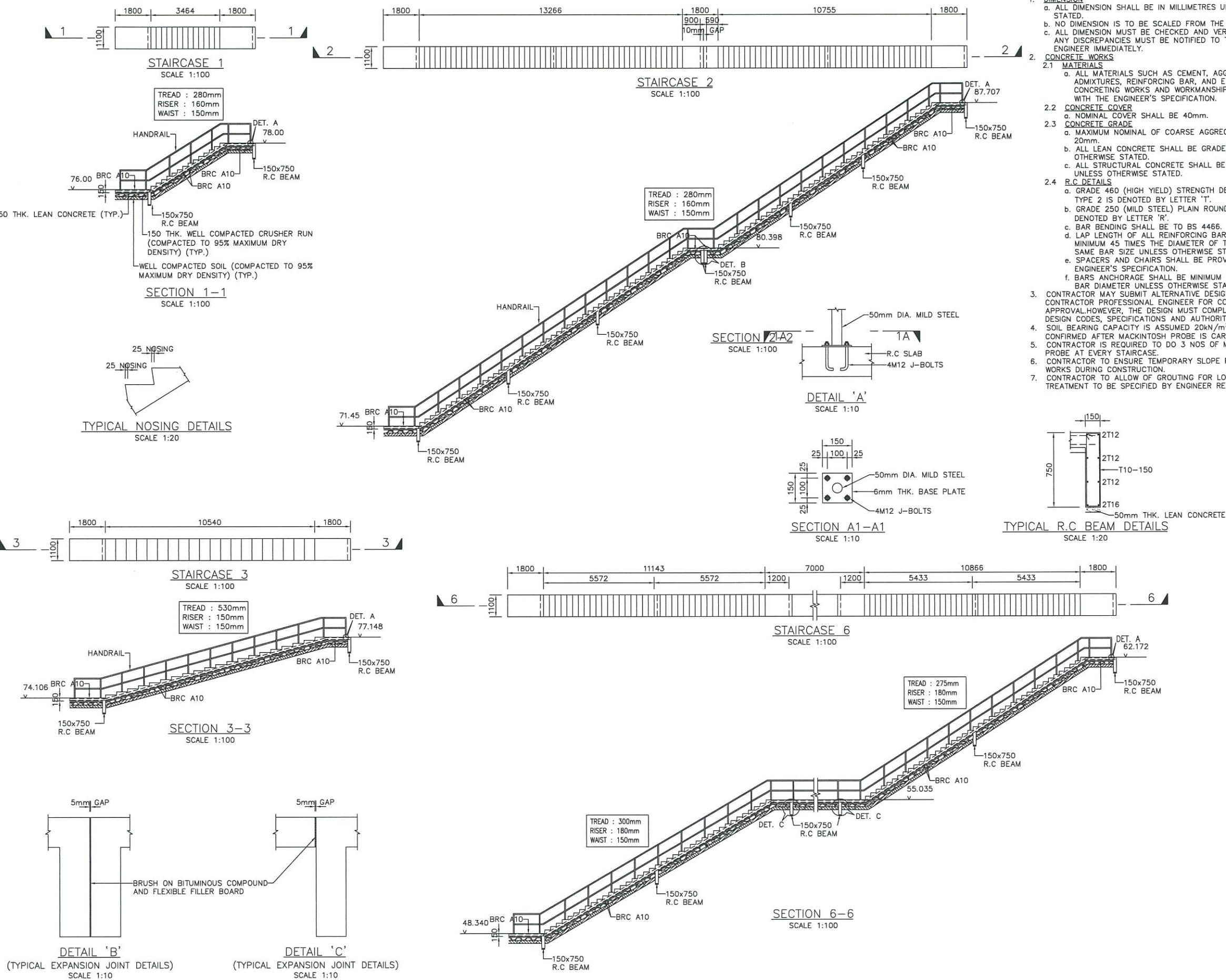
CONTRACT TITLE :

BUKIT NANAS WTP

DRAWING TITLE :

STAIRCASE DETAILS  
 (SHEET 1 OF 2)

DATE	SCALE	NTS
DRAWN : SAA/NHL	CHECKED : IR. AAR	
DESIGNED : CCX/TMH	APPROVED : IR. S. TONG	
DRAWING NUMBER : AIS/2520016/DTL/S/001		REVISION TO



Air Selangor

PENGURUSAN AIR SELANGOR SDN. BHD.

(201401005213)

Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

CONSULTANT:

**MINCONSULT SDN. BHD.**  
(Company No.: 58835-P)  
minconsult

Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel: 603-79545757, 79525757  
Fax: 603-79547373, 79547575

PROJECT TITLE :  
SUPPLY, INSTALL, TESTING AND  
COMMISSIONING FOR ELECTRICAL WORKS  
AND OTHER ASSOCIATED WORKS  
AT BUKIT NANAS, AMPANG INTAKE, CHERAS  
MILE 11, AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER



REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	MARCH 2022

CONTRACT TITLE :

BUKIT NANAS WTP

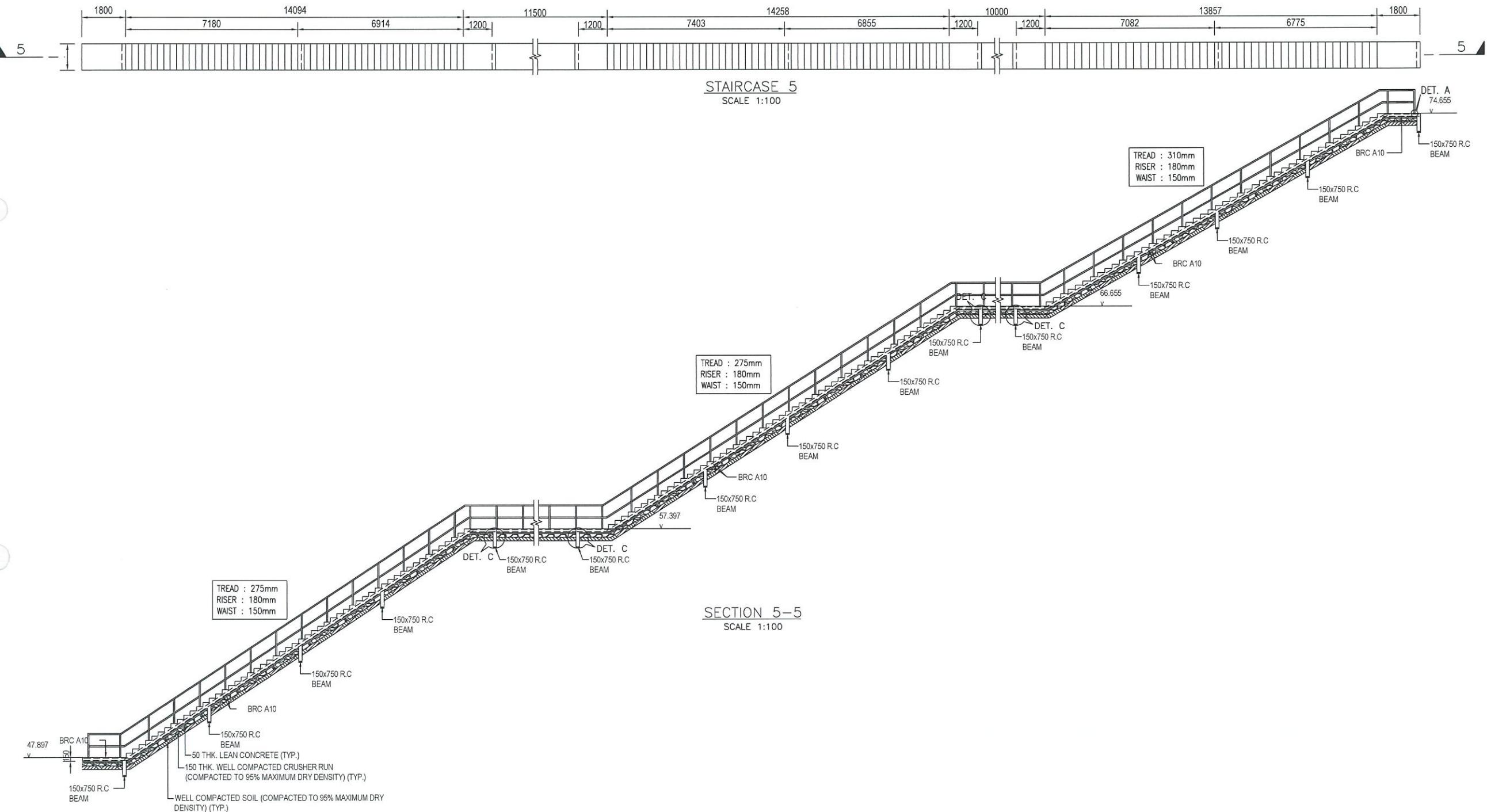
DRAWING TITLE :

STAIRCASE DETAILS  
(SHEET 2 OF 2)

DATE : MAR 2022	SCALE	NTS
DRAWN : SAA/NHL	CHECKED	: IR. AAR
DESIGNED : CCX/TMH	APPROVED	: IR. S. TONG
DRAWING NUMBER : AIS/2520016/DTL/S/002		REVISION TO

TENDER DRAWING

NOTES:  
1. GENERAL NOTES REFER DRAWING NO.: AIS/2520016/DTL/S/101.



CLIENT :  
  
**Air Selangor**  
PENGURUSAN AIR SELANGOR SDN. BHD.  
(201401006213)

Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
  
**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT  
NANAS, AMPANG INTAKE, CHERAS MILE 11  
AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CONTRACT TITLE :

AMPANG INTAKE WTP

DRAWING TITLE :

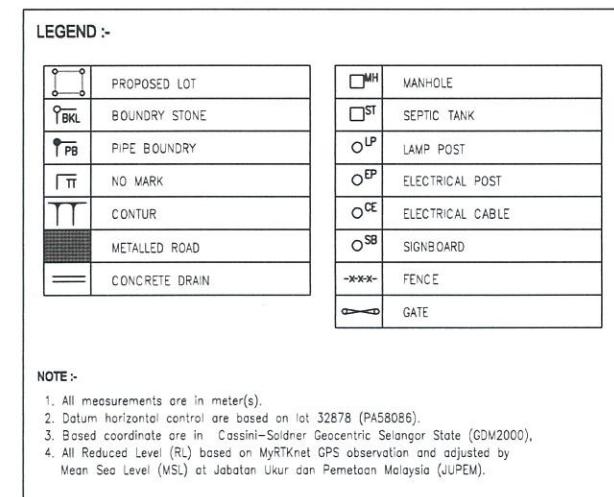
LIST OF DRAWINGS

DATE	SCALE	NTS
FEB 2023		
DRAWN	CHECKED	REVIEWED
YMN	UMI KALSOM	
DESIGNED	APPROVED	IR.ZAHROL
GANNA		
DRAWING NUMBER :	REVISION	
AIS/2520016/AI/25/LIST/001	T0	

TENDER DRAWING



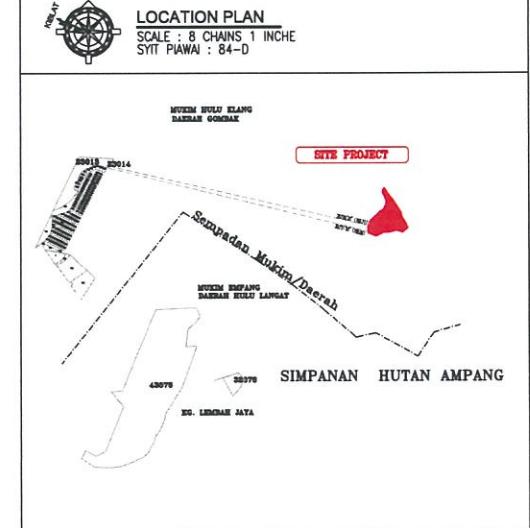
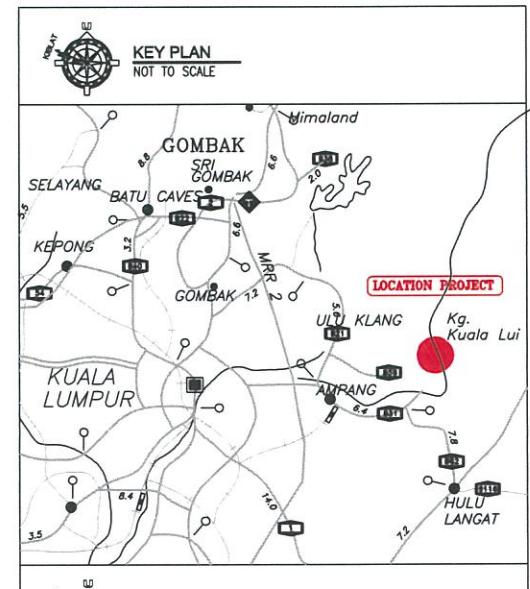
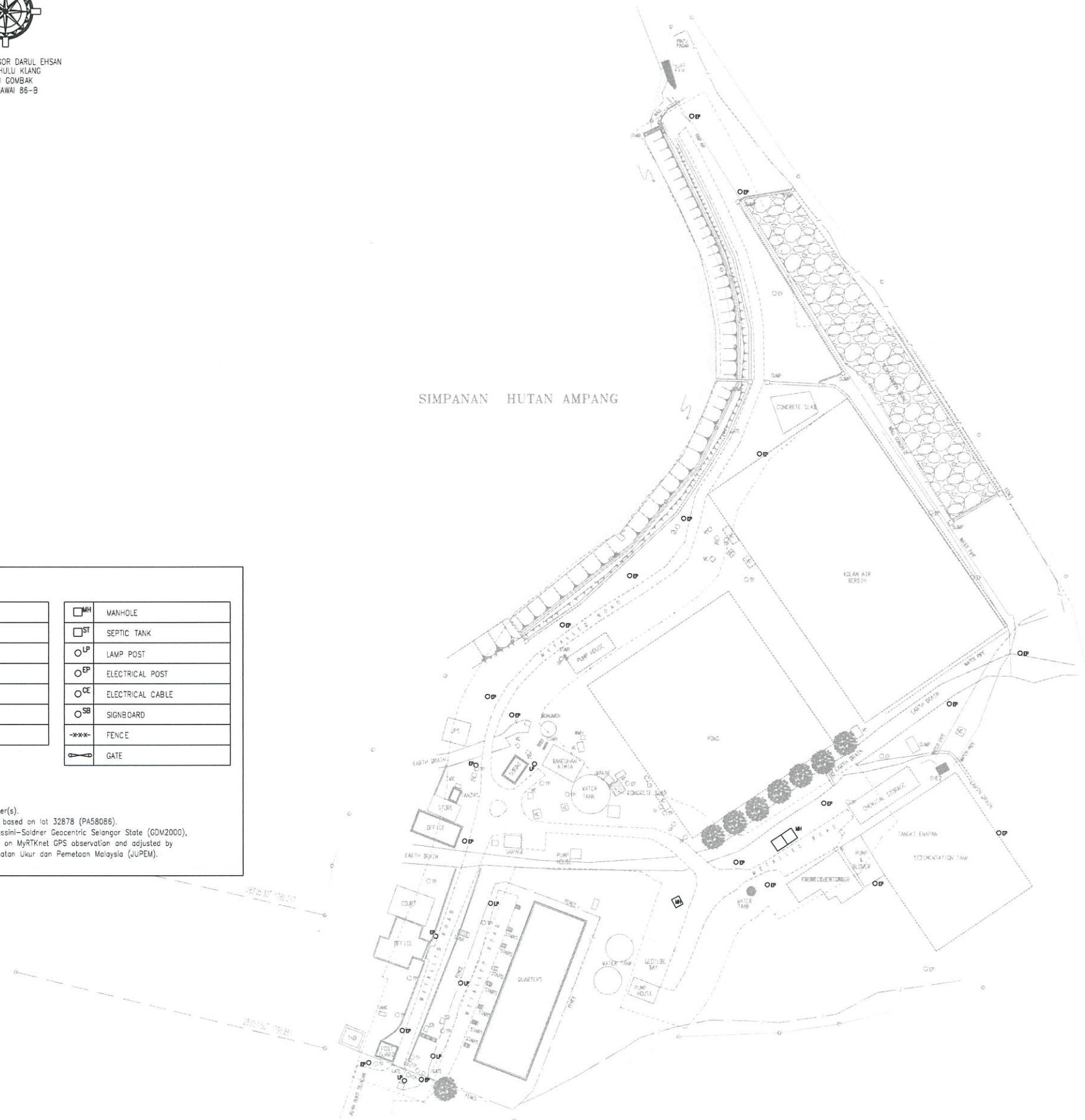
NEGERI SELANGOR DARUL EHSAN  
MUKIM HULU KLANG  
DAERAH GOMBAK  
SYT PIAWAI 86-B



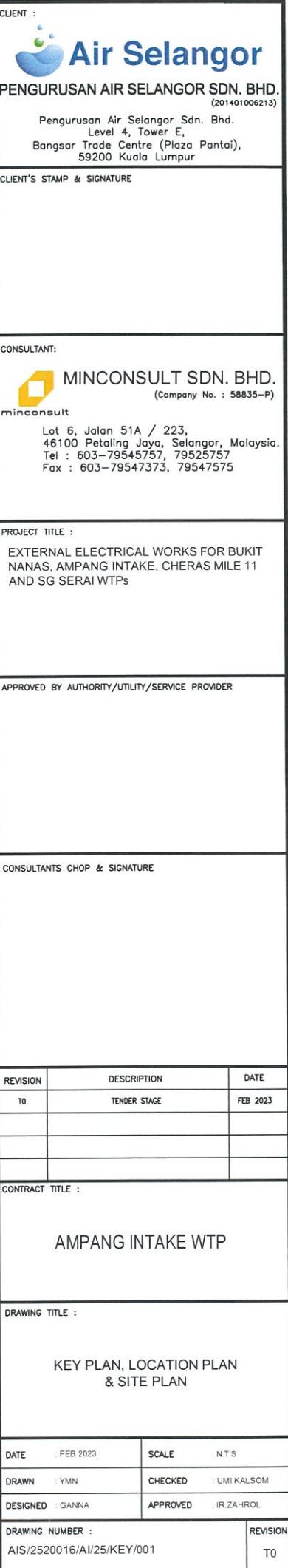
#### **NOTE :-**

1. All measurements are in meter(s).
  2. Datum horizontal control are based on lot 32878 (PA58086).
  3. Based coordinate are in Cassini-Soldner Geocentric Selangor State (GDM2000).
  4. All Reduced Level (RL) based on MyRental GPS observation and adjusted by Mean Sea Level (MSL) at Jabatan Ukur dan Pemetaan Malaysia (JUPM).

## SIMPANAN HUTAN AMPANG



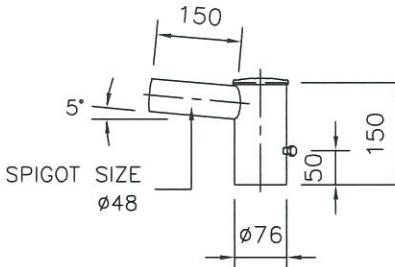
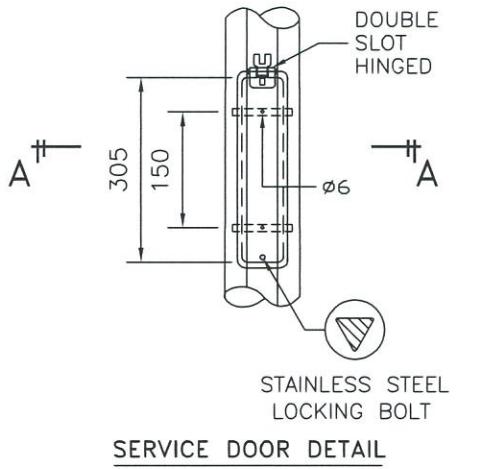
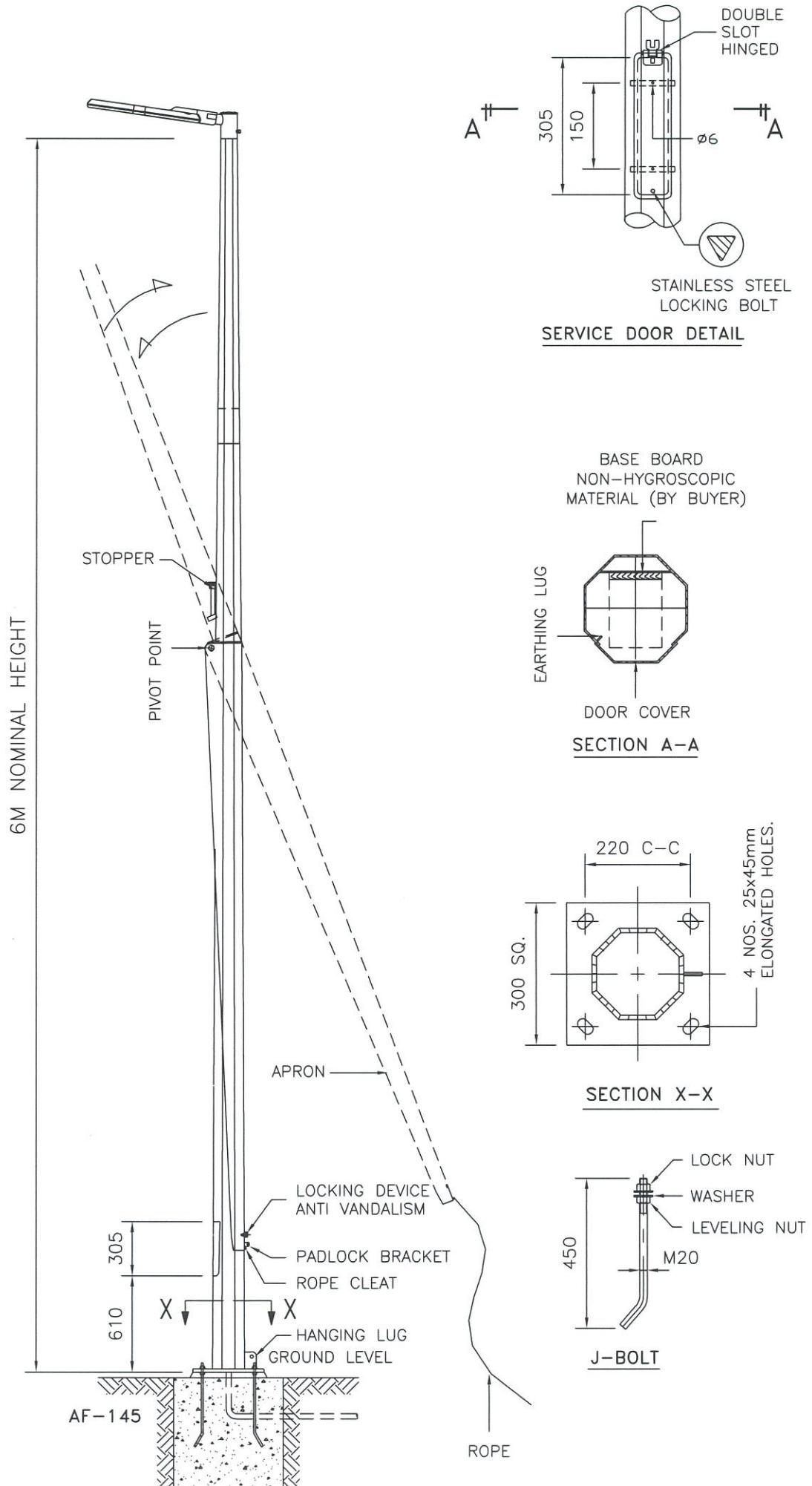
for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575





&lt;/

MAX. FITTING LOAD : 30KG



SINGLE SHORT ARM

**TECHNICAL SPECIFICATIONS**

- THE COLUMNS SHALL BE DESIGNED TO WITHSTAND WIND SPEED OF 35M PER SECOND, TOPOGRAPHY, GROUND ROUGHNESS & STATISTICAL FACTOR OF 1.0.
- COLUMNS SHALL BE MANUFACTURED IN COMPLIANCE TO BRITISH STANDARD BS EN 40.
- MATERIALS USED FOR LIGHTING COLUMNS SHALL COMPLY WITH BS EN 10025 S275 /JIS G3101 SS400.
- LIGHTING COLUMNS SHALL BE LONGITUINALLY SEAM WELDED CONFORM TO BS 5135 BY AUTOMATIC CONTINUOUS METAL INERT GAS (MIG) PROCESS.
- COLUMNS SHALL BE ANTI-CORRODED BY HOT-DIP GALVANISED, COMPLIANCE WITH GALVANIZING STANDARD BS EN ISO 1461.
- SERVICES DOOR DIMENSIONS ARE GIVEN AS A GUIDE ONLY. THE ENGINEER MUST SATISFY HIMSELF THAT DIMENSIONS GIVEN ARE ADEQUATE FOR THE INSTALLATION OF THE REQUIRED CONTROL GEAR.
- ALL DIMENSION SHALL BE IN(MM), UNLESS OTHERWISE SPECIFIED.
- MATERIAL TOLERANCE: UNLESS OTHERWISE SPECIFIED, ALL MATERIAL TOLERANCES SHALL BE IN ACCORDANCE TO:  
BS EN 10029 (STEEL PLATE)  
BS EN 10255 (STEEL TUBE / HOLLOW SQUARE)  
BS EN 10056 (STEEL ANGLE)

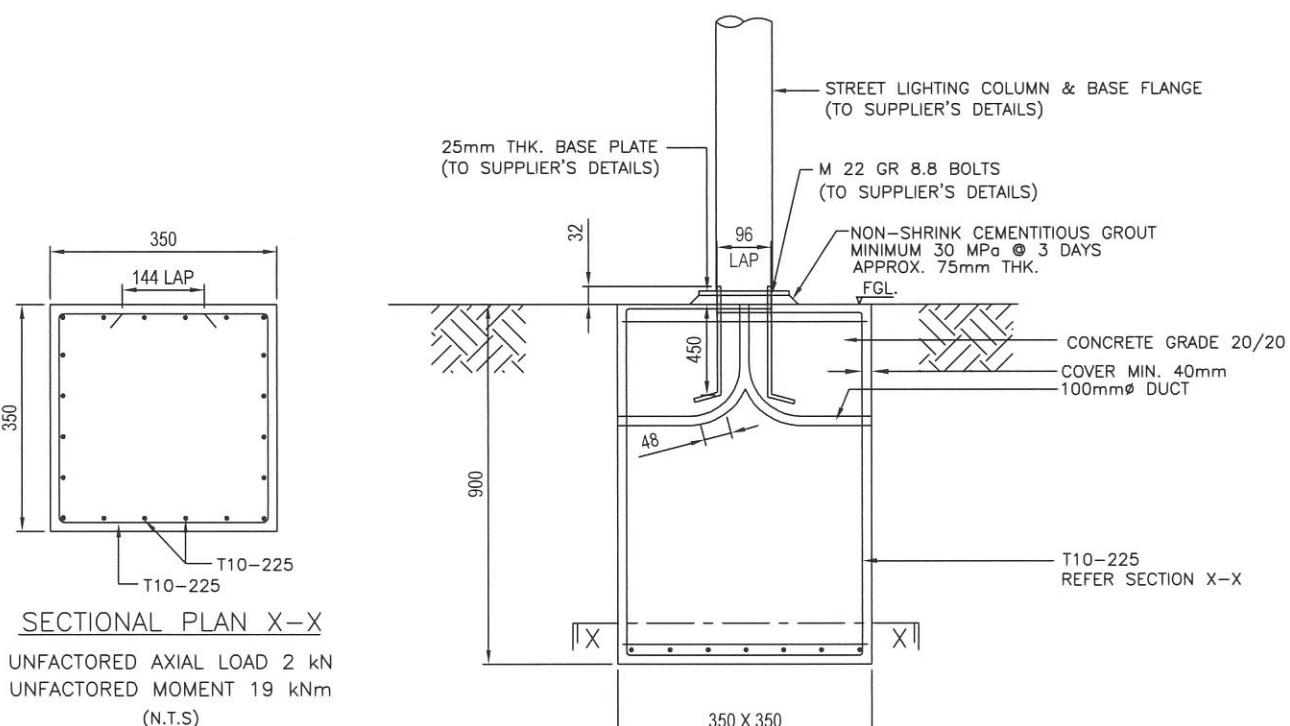
CLIENT :  
**Air Selangor**  
PENGURUSAN AIR SELANGOR SDN. BHD.  
(201401006213)  
Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel: 603-79545757, 79525757  
Fax: 603-79547373, 79547575

PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER



SECTIONAL PLAN X-X

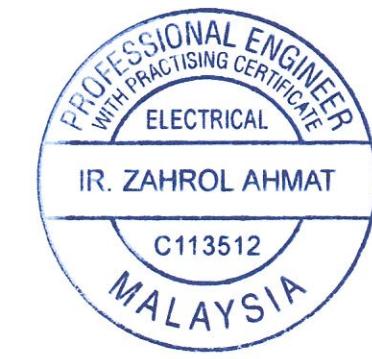
UNFACTORED AXIAL LOAD 2 kN  
UNFACTORED MOMENT 19 kNm  
(N.T.S.)

T10-225

T10-225

REFER SECTION X-X

X X



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

TENDER DRAWING

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CONTRACT TITLE :

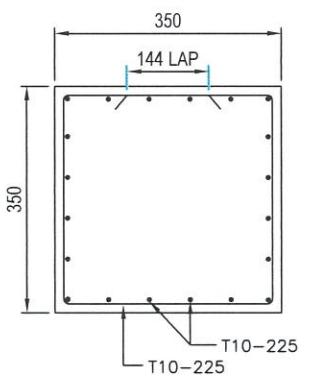
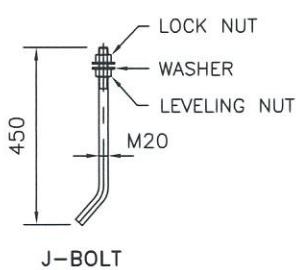
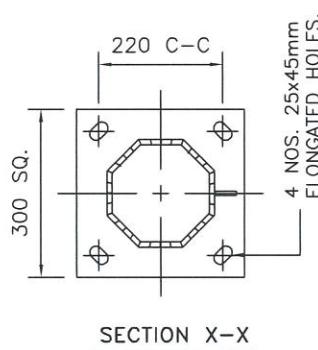
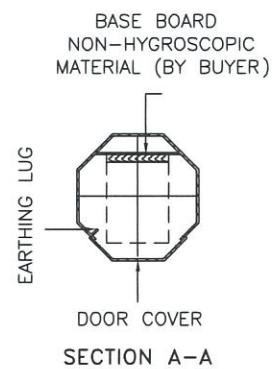
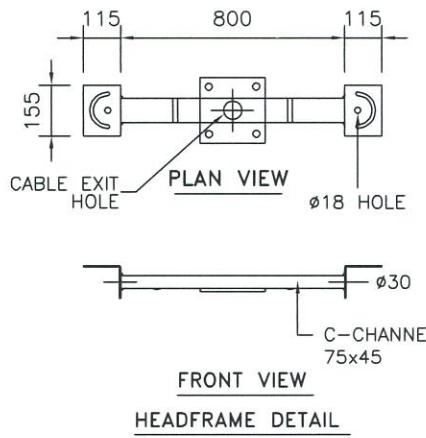
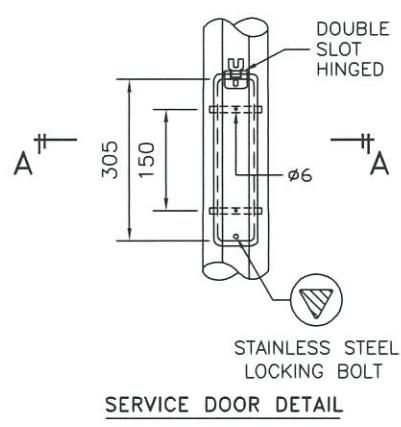
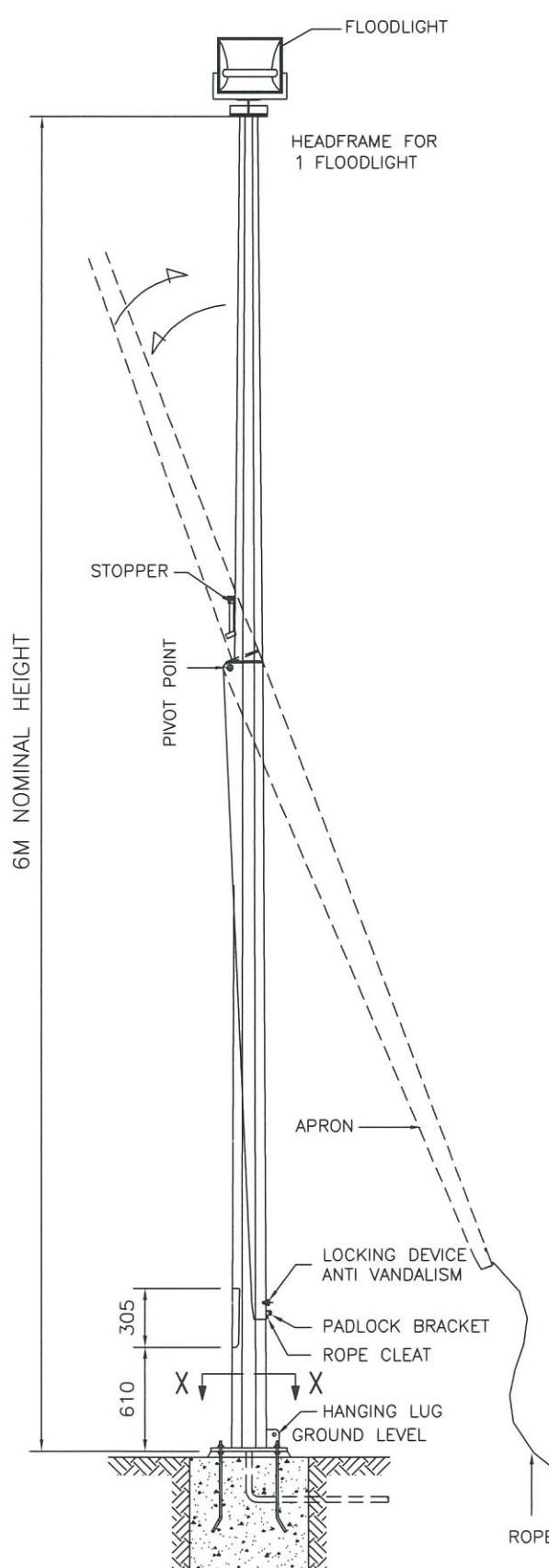
AMPANG INTAKE WTP

DRAWING TITLE :

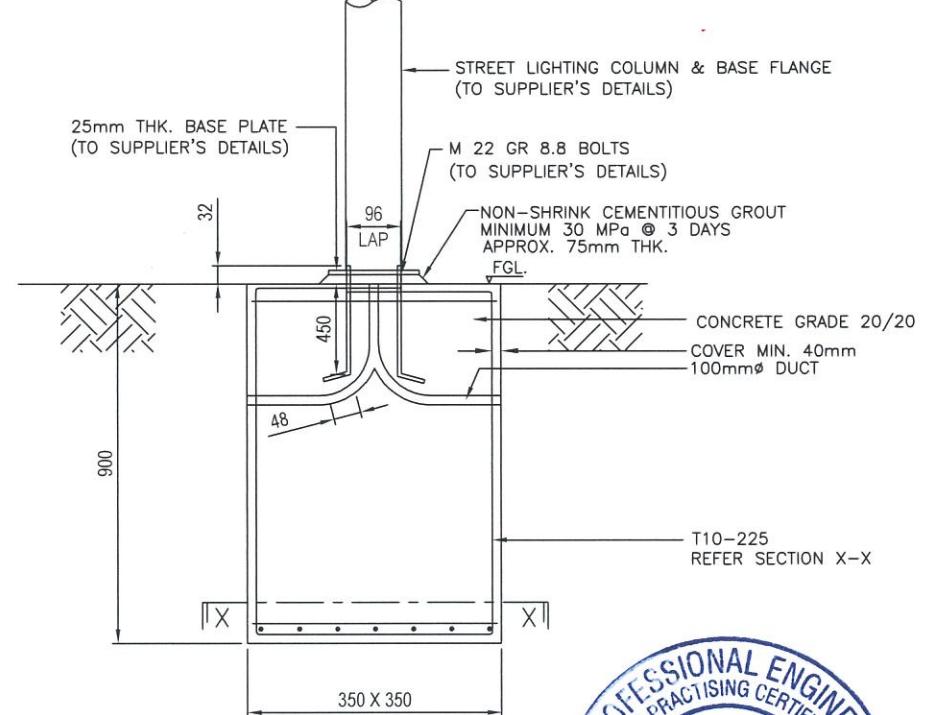
STREET LIGHTING POLE DETAIL 1

DATE	FEB 2023	SCALE	N.T.S
DRAWN	YMN	CHECKED	UMI KALSON
DESIGNED	GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER :			REVISION
AIS/2520016/AI/25/DTL/001			T0

MAX. FITTING LOAD : 30KG



SECTIONAL PLAN X-X  
UNFACTORED AXIAL LOAD 2 kN  
UNFACTORED MOMENT 19 kNm  
(N.T.S)



DETAIL 'A'  
(N.T.S)



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

### TECHNICAL SPECIFICATIONS

- THE COLUMNS SHALL BE DESIGNED TO WITHSTAND WIND SPEED OF 35M PER SECOND, TOPOGRAPHY, GROUND ROUGHNESS & STATISTICAL FACTOR OF 1.0.
- COLUMNS SHALL BE MANUFACTURED IN COMPLIANCE TO BRITISH STANDARD BS EN 40.
- MATERIALS USED FOR LIGHTING COLUMNS SHALL COMPLY WITH BS EN 10025 S275 /JIS G3101 SS400.
- LIGHTING COLUMNS SHALL BE LONGITUINALLY SEAM WELDED CONFORM TO BS 5135 BY AUTOMATIC CONTINUOUS METAL INERT GAS (MIG) PROCESS.
- COLUMNS SHALL BE ANTI-CORRODED BY HOT-DIP GALVANISED, COMPLIANCE WITH GALVANIZING STANDARD BS EN ISO 1461.
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- ALL DIMENSION SHALL BE IN(MM), UNLESS OTHERWISE SPECIFIED.
- MATERIAL TOLERANCE: UNLESS OTHERWISE SPECIFIED, ALL MATERIAL TOLERANCES SHALL BE IN ACCORDANCE TO:  
BS EN 10029 (STEEL PLATE)  
BS EN 10255 (STEEL TUBE / HOLLOW SQUARE)  
BS EN 10056 (STEEL ANGLE)

CLIENT :  
**Air Selangor**  
PENGURUSAN AIR SELANGOR SDN. BHD.  
(201401006213)  
Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CONTRACT TITLE :

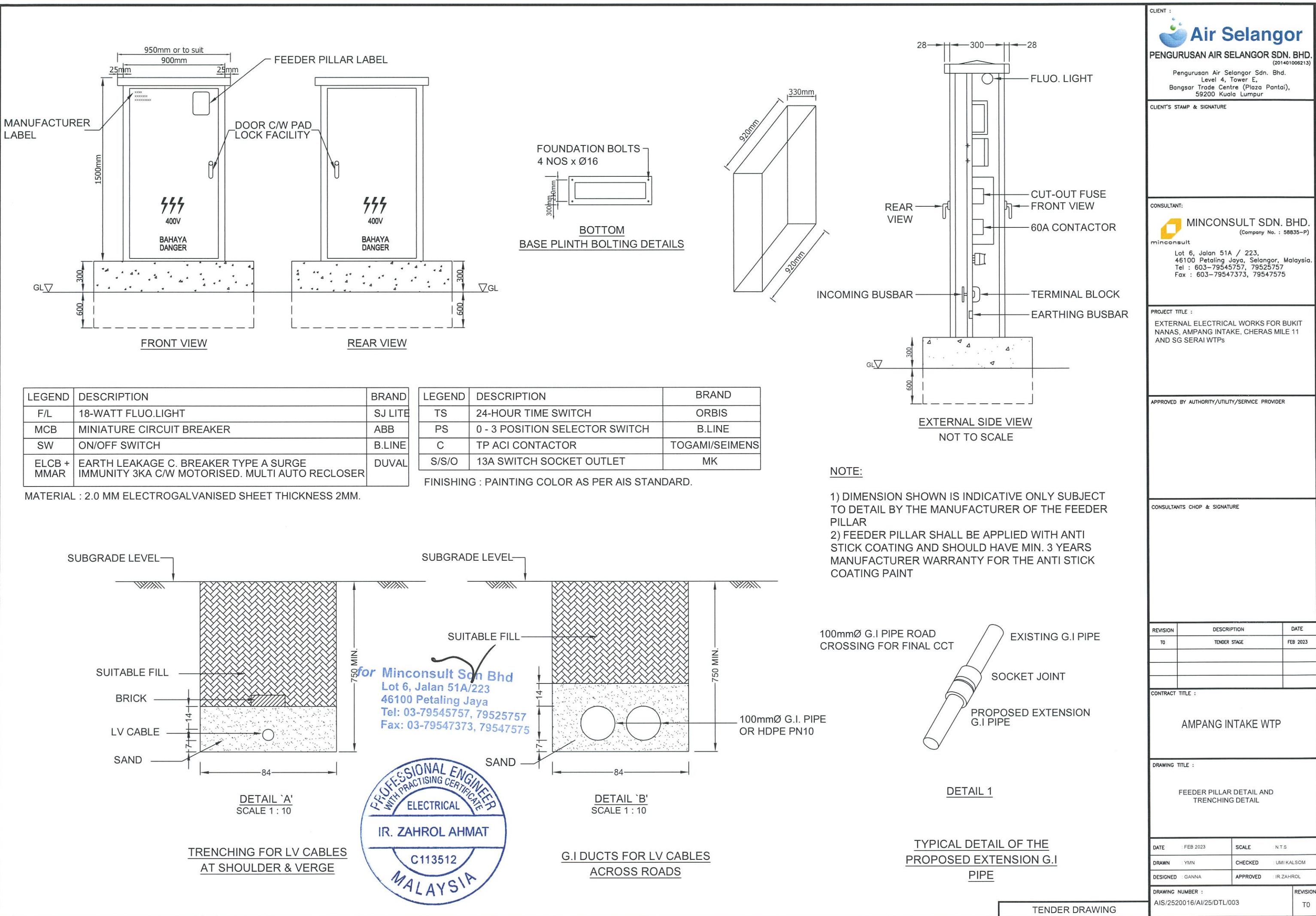
AMPANG INTAKE WTP

DRAWING TITLE :

STREET LIGHTING POLE DETAIL 2

DATE	SCALE	NTS
DRAWN	CHECKED	UMI KALSON
DESIGNED	APPROVED	IR.ZAHROL
DRAWING NUMBER :		REVISION
AIS/2520016/AI/25/DTL/002		T0

TENDER DRAWING



CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
  
**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
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PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT  
NANAS, AMPANG INTAKE, CHERAS MILE 11  
AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CONTRACT TITLE :

CHERAS MILE 11 WTP

DRAWING TITLE :		
LIST OF DRAWINGS		

DATE	FEB 2023	SCALE	N.T.S
DRAWN	YMN	CHECKED	UMI KALSON
DESIGNED	GANNA	APPROVED	IR ZAHROL
DRAWING NUMBER :	AIS/2520016/CB11/25/LIST/001	REVISION	T0

TENDER DRAWING

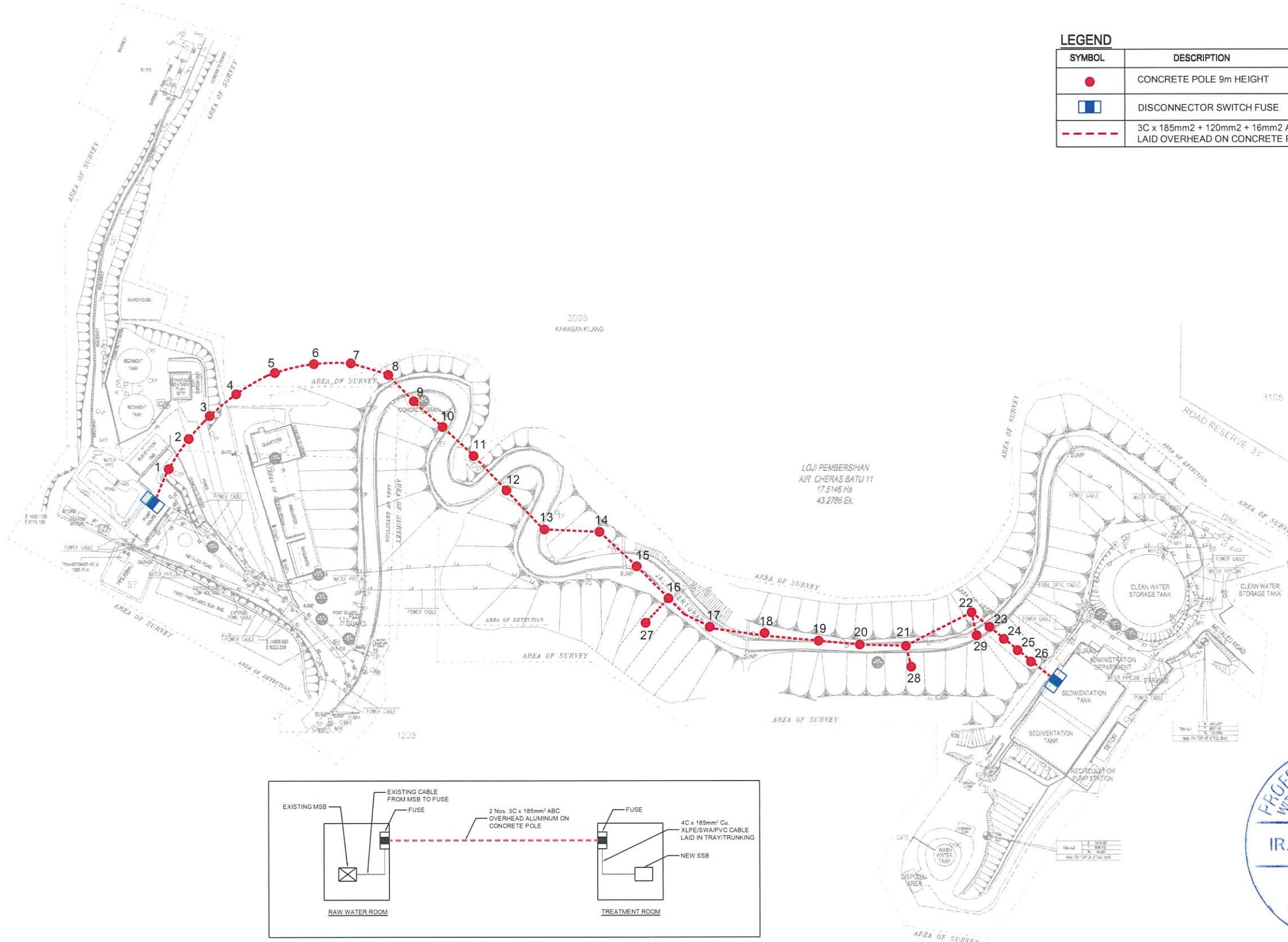
LIST OF DRAWINGS

NO.	DRAWING NO.	DRAWING TITLE	REV.
<b>CHERAS MILE 11 TREATMENT PLANT</b>			
1	AIS/2520016/CB11/25/LIST/001	LIST OF DRAWINGS	T0
2	AIS/2520016/CB11/25/EXT/001	OVERHEAD CABLE ROUTE	T0
3	AIS/2520016/CB11/25/STL/001	STREET LIGHTING LAYOUT	T0
4	AIS/2520016/CB11/25/SLD/001	FEEDER PILLAR SINGLE LINE DIAGRAM	T0
5	AIS/2520016/CB11/25/SLD/002	EXISTING DISTRIBUTION BOARD SINGLE LINE DIAGRAM	T0
6	AIS/2520016/CB11/25/MSB/001	MAIN SINGLE LINE DIAGRAM (EXISTING)	T0
7	AIS/2520016/CB11/25/MSB/002	MAIN SINGLE LINE DIAGRAM (NEW)	T0
8	AIS/2520016/CB11/25/MSB/003	MSB ROOM LAYOUT PLAN	T0
9	AIS/2520016/CB11/25/TFP/001	SCHEMATIC DIAGRAM FOR TEMPORARY FEEDER PILLAR	T0
10	AIS/2520016/CB11/25/DTL/001	CONCRETE POLE DETAIL	T0
11	AIS/2520016/CB11/25/DTL/002	FEEDER PILLAR DETAIL AND TRENCHING DETAIL	T0

REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

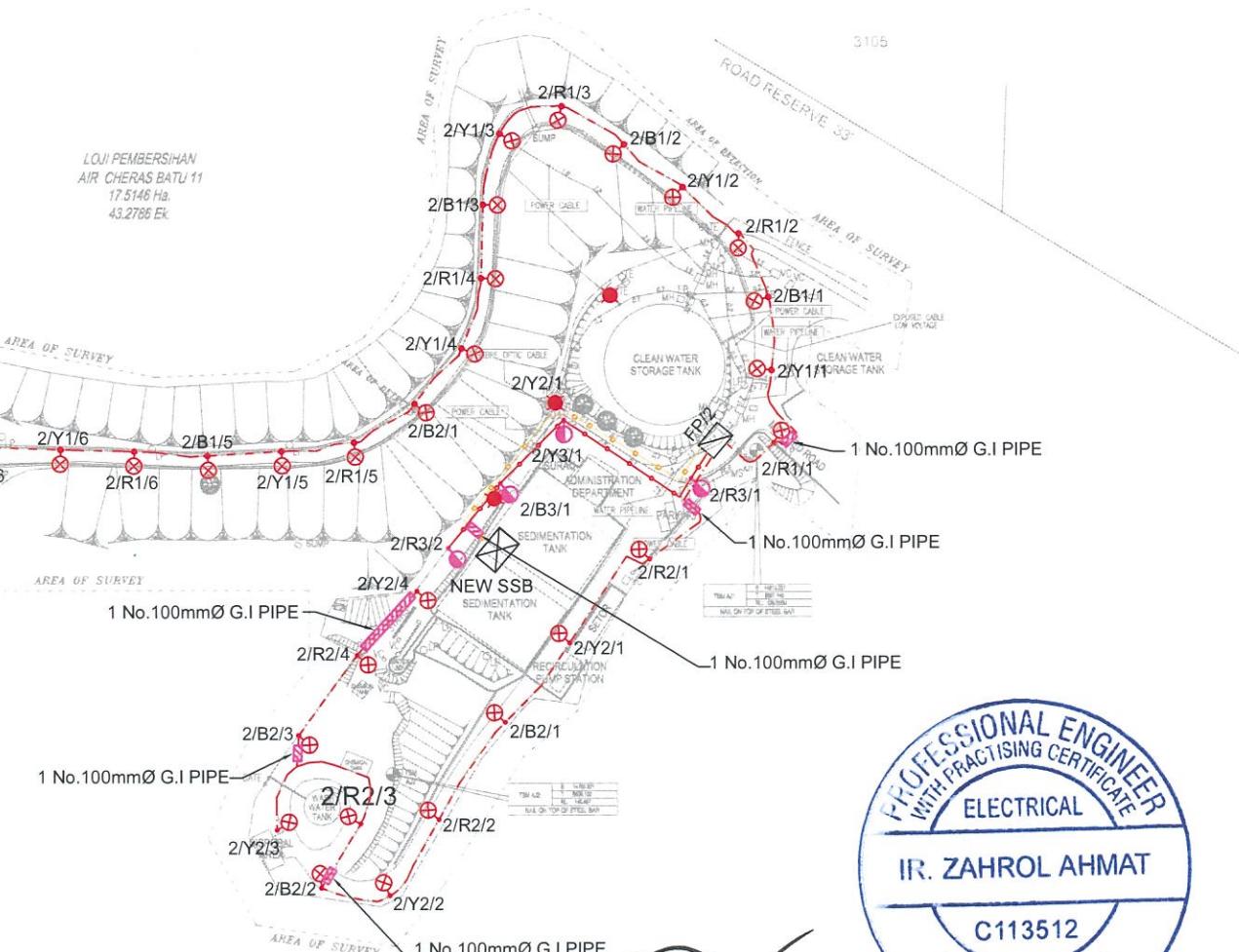
DATE	SCALE	NTS
DRAWN : YMN	CHECKED : UMI KALSON	
DESIGNED : GANNA	APPROVED : IR ZAHROL	
DRAWING NUMBER :		REVISION
AIS/2520016/CB11/25/EXT/001		T0

for Minconsult Sdn Bhd  
 Lot 6, Jalan 51A/223  
 46100 Petaling Jaya  
 Tel: 03-79545757, 79525757  
 Fax: 03-79547373, 79547575





CHERAS BATU 11  
WATER TREATMENT PLANT



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575



TENDER DRAWING

LEGEND	SYMBOL	DESCRIPTION	QTY
	150W LED STREET LIGHTING MOUNTED AT 6mH ON THE 8mH CONCRETE POLE		52
	2 x 150W LED STREET LIGHTING MOUNTED AT EXISTING 10 mH DOUBLE ARM POLE		1
	150W LED STREET LIGHTING MOUNTED AT EXISTING DECORATIVE POLE		4
	50W LED STREET LIGHTING MOUNTED AT EXISTING 3mH HDG POLE		9
	150W LED STREET LIGHTING MOUNTED AT 6mH ON THE 9mH CONCRETE POLE (SHARING POWER POLE)		4
	1 No 100mmØ G.I PIPE FOR ROAD CROSSING		-
	4C x 10mm² XLPE/SWA/PVC DIRECT BURIED UNDERGROUND		-
	3C x 35mm² + 1C x 25mm² ABC TWISTED CABLE LAID OVERHEAD ON CONCRETE POLE		
	3C x 25mm² + 1C + 16mm² ABC TWISTED CABLE LAID OVERHEAD ON CONCRETE POLE		-
	4C x 16mm² XLPE/SWA/PVC COPPER CABLE LAID DIRECT BURIED UNDERGROUND		-
	4C x 35mm² XLPE/SWA/PVC COPPER CABLE LAID DIRECT BURIED UNDERGROUND		-
	EXISTING FEEDER PILLAR (FP/SL)		1
	NEW FEEDER PILLAR		2
	NEW SSB		1
	EXSITING MSB		1
	DISMANTLE EXISTING POLE		3

CLIENT :  
 Air Selangor  
PENGURUSAN AIR SELANGOR SDN. BHD.  
(201401006213)

Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

**CLIENT'S STAMP & SIGNATURE**

CONSULTANT:  
 MINCONSULT SDN. BHD.  
(Company No. : 58835-P)

minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

**PROJECT TITLE :**

**EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs**

---

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

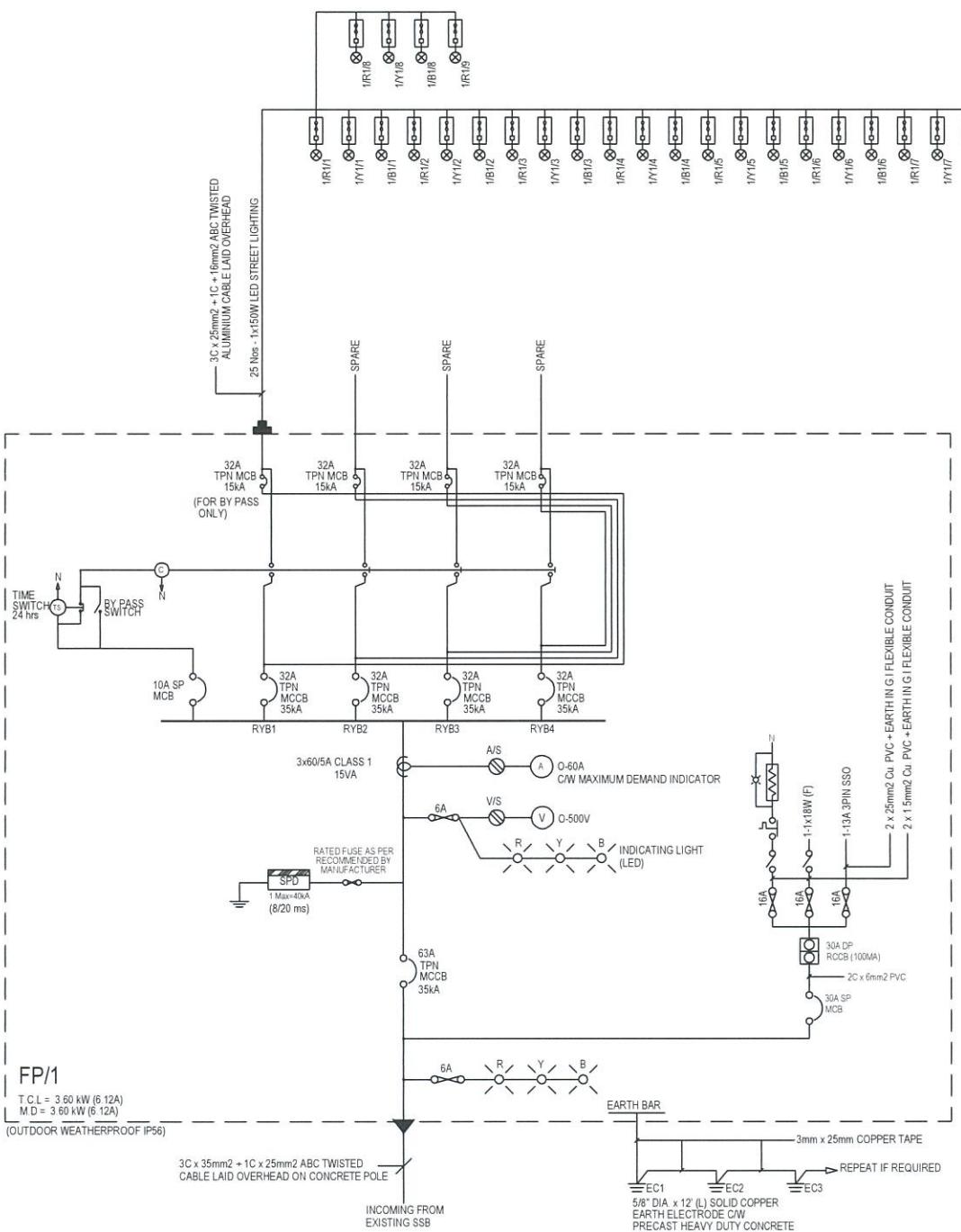
REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CHERAS MILE 11 WTP

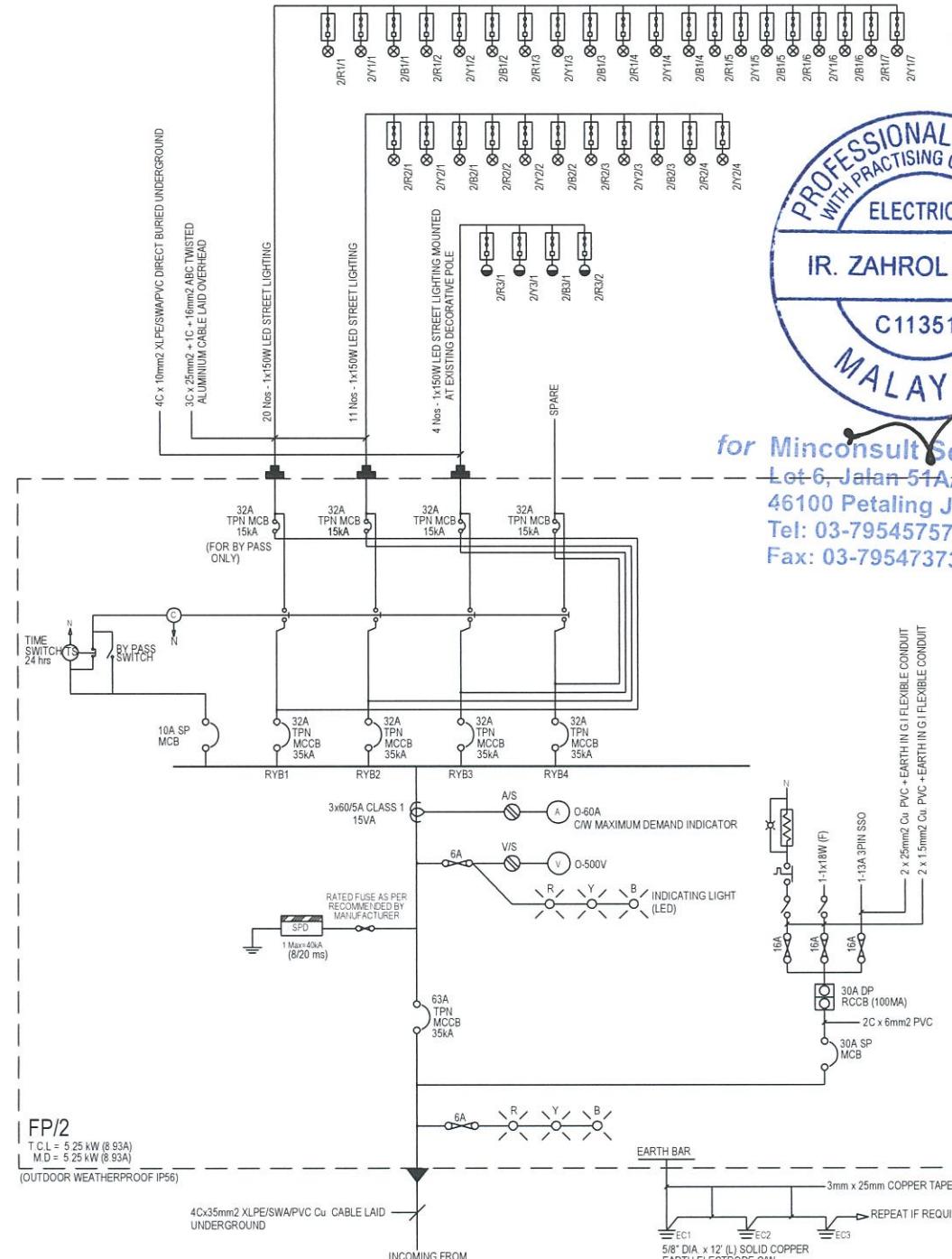
DRAWING TITLE

STREET LIGHTING LAYOUT

DATE	FEB 2023	SCALE	N T S
DRAWN	YMN	CHECKED	UMI KALSOM
DESIGNED	GANNA	APPROVED	IR ZAHROL
DRAWING NUMBER :	REVISION		
AIS/2520016/CB11/25/STL/001	T0		



SCHEMATIC DIAGRAM FOR FEEDER PILLAR FP/1



## SCHEMATIC DIAGRAM FOR FEEDER PILLAR FP/2

SYMBOL	DESCRIPTION
	1x150W LED STREET LIGHTING MOUNTED AT 6mH ON THE 8mH CONCRETE POLE
	1x150W LED STREET LIGHTING MOUNTED AT EXISTING DECORATIVE POLE
	1x50W LED STREET LIGHTING MOUNTED AT EXISTING 3mH HDG POLE
	DIGITAL PHOTOCELL
	TIME SWITCH
	SELECTOR SWITCH
	HEAT SHRINKABLE TERMINATION
	CABLE GLAND

NOTES:

- 1) TIME SWITCH . ORBIS
- 2) STANDARD FEEDER PILLAR
  - VOLTAGE = 400V
  - PROTECTION = IP56
  - STANDARD EN60998 - 2 - 1 2004

The image shows the Air Selangor logo, which consists of a stylized blue water droplet with three green dots above it. To the right of the logo, the word "Air Selangor" is written in a large, bold, blue sans-serif font. Below the logo, the company name "PENGURUSAN AIR SELANGOR SDN. BHD." is printed in a smaller, black, all-caps font. Underneath that, the registration number "(201401006213)" is shown in parentheses. At the bottom, there is a line for a client's stamp or signature.

**CLIENT'S STAMP & SIGNATURE**

**CONSULTANT:**  
 **MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79547575, 79525757  
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**PROJECT TITLE :**  
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APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

for Minconsult Sdn Bhd  
— Lot 6, Jalan 51A/23  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

CONSULTANTS CHOP & SIGNATURE

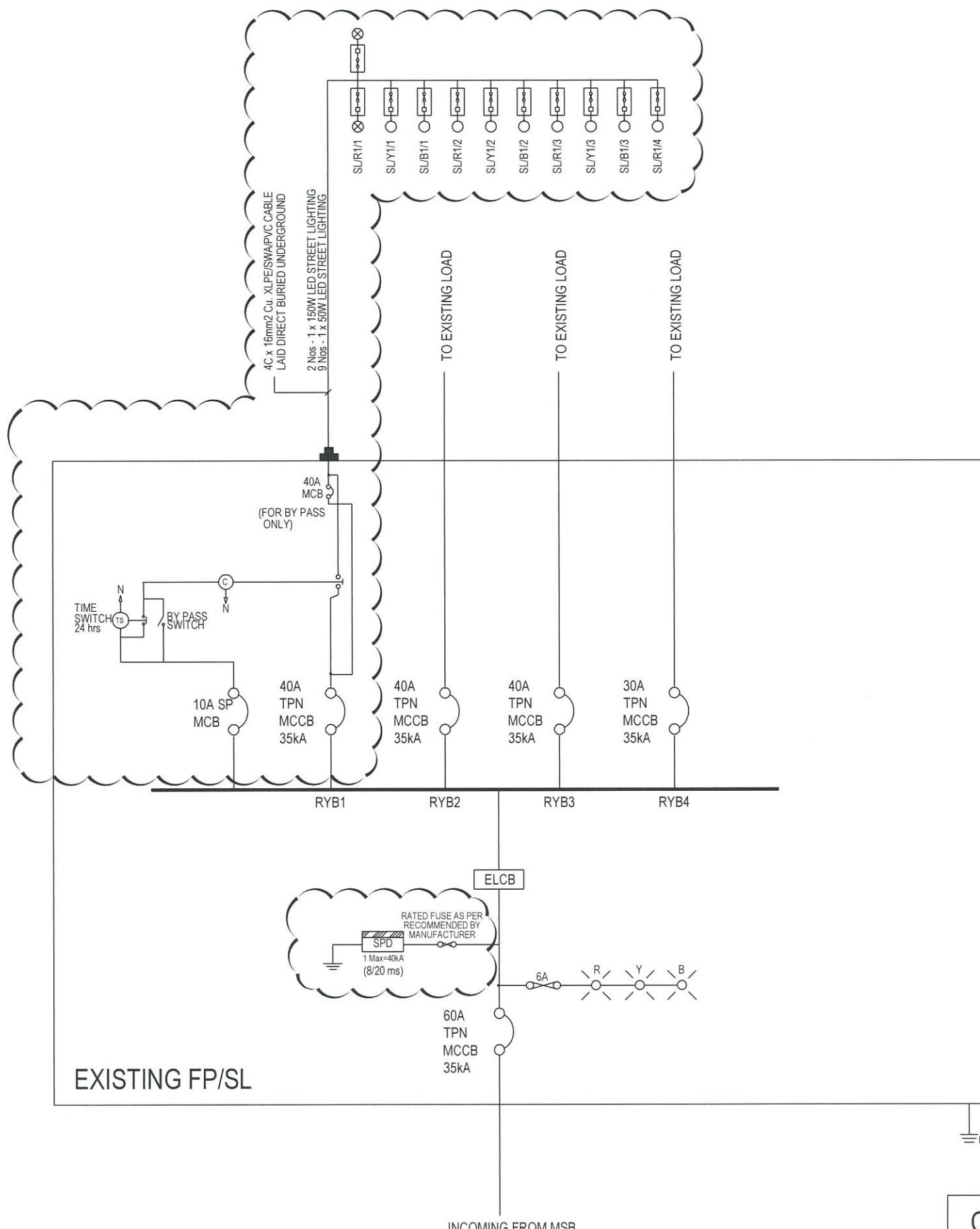
REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CONTRACT TITLE :

CHERAS MILE 11 WTP

DRAWING TITLE : \_\_\_\_\_

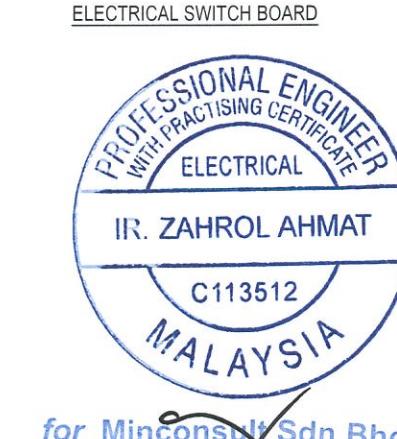
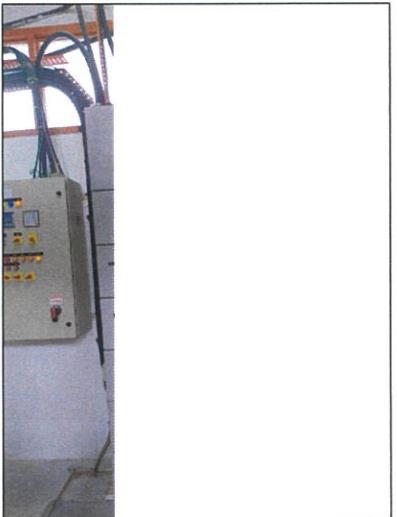
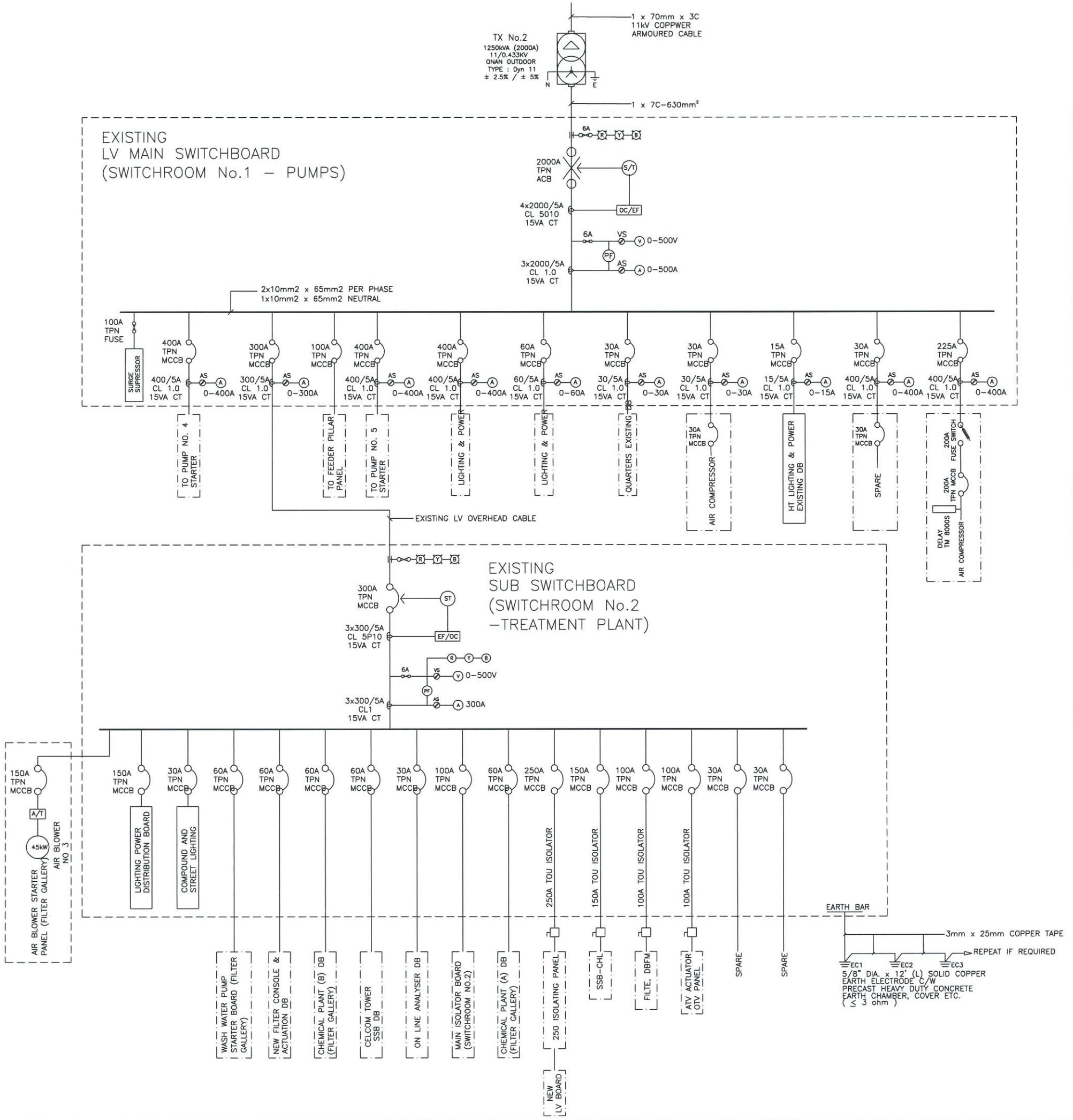
DATE	FEB 2023	SCALE	N T S
DRAWN	YMN	CHECKED	UMI KALSOM
DESIGNED	GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER :			REVISION
AIS/2520016/CB11/25/SLD/001			T0



Contractor to change the Lantern SPD and replace all cabling works only. Contractor to made good existing panel board (FP/SL)

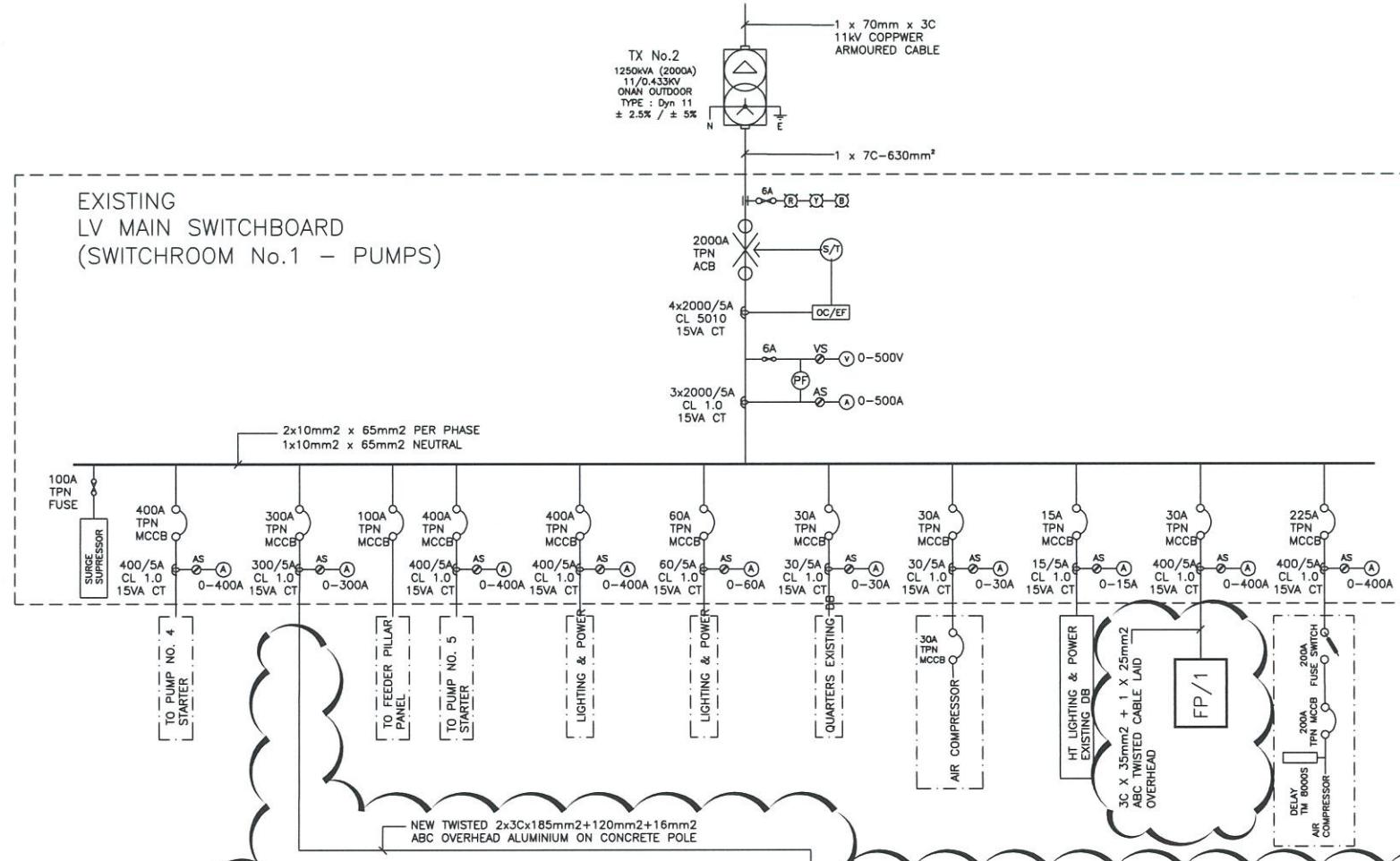
CLIENT :	
<b>Air Selangor</b> <b>PENGURUSAN AIR SELANGOR SDN. BHD.</b> (201401006213)	
Pengurusan Air Selangor Sdn. Bhd. Level 4, Tower E, Bangsar Trade Centre (Plaza Pantai), 59200 Kuala Lumpur	
CLIENT'S STAMP & SIGNATURE	
CONSULTANT:	
<b>MINCONSULT SDN. BHD.</b> (Company No. : 58835-P) minconsult Lot 6, Jalan 51A / 223, 46100 Petaling Jaya, Selangor, Malaysia. Tel : 603-79545757, 79525757 Fax : 603-79547373, 79547575	
PROJECT TITLE :	
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs	
APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER	
CONSULTANTS CHOP & SIGNATURE	
 <b>IR. ZAHROL AHMAT</b> C113512 MALAYSIA	
REVISION	
10	DESCRIPTION
	TENDER STAGE
	FEB 2023
CONTRACT TITLE :	
CHERAS MILE 11 WTP	
DRAWING TITLE :	
EXISTING DISTRIBUTION BOARD SINGLE LINE DIAGRAM	
DATE FEB 2023 SCALE N.T.S.	
DRAWN : YMN	CHECKED : UMI KALSON
DESIGNED : GANNA	APPROVED : IR.ZAHROL
DRAWING NUMBER : AIS/2520016/CB11/25/SLD/002	
REVISION T0	

**TENDER DRAWING**



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

<b>Air Selangor</b> <b>PENGURUSAN AIR SELANGOR SDN. BHD.</b> <small>(201401006213)</small>																	
Pengurusan Air Selangor Sdn. Bhd. Level 4, Tower E, Bangsar Trade Centre (Plaza Pantai), 59200 Kuala Lumpur																	
CLIENT'S STAMP & SIGNATURE																	
<b>CONSULTANT:</b>  <b>MINCONSULT SDN. BHD.</b> <small>(Company No. : 58835-P)</small> minconsult Lot 6, Jalan 51A / 223, 46100 Petaling Jaya, Selangor, Malaysia. Tel : 603-79545757, 79525757 Fax : 603-79547373, 79547575																	
<b>PROJECT TITLE :</b> EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs																	
<b>APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER</b>																	
<b>CONSULTANTS CHOP &amp; SIGNATURE</b>																	
<table border="1"> <thead> <tr> <th>REVISION</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>TO</td> <td>TENDER STAGE</td> <td>FEB 2023</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>			REVISION	DESCRIPTION	DATE	TO	TENDER STAGE	FEB 2023									
REVISION	DESCRIPTION	DATE															
TO	TENDER STAGE	FEB 2023															
<b>CONTRACT TITLE :</b>  <b>CHERAS MILE 11 WTP</b>																	
<b>DRAWING TITLE :</b>  <b>MAIN SINGLE LINE DIAGRAM (EXISTING)</b>																	
<table border="1"> <thead> <tr> <th>DATE</th> <th>SCALE</th> <th>NTS</th> </tr> </thead> <tbody> <tr> <td>FEB 2023</td> <td>CHECKED</td> <td>UMI KALSON</td> </tr> <tr> <td>DRAWN : YMN</td> <td>DESIGNED : GANNA</td> <td>APPROVED : IR.ZAHROL</td> </tr> <tr> <td colspan="2">DRAWING NUMBER :</td> <td>REVISION</td> </tr> <tr> <td colspan="2">AIS/2520016/CB11/25/MSB/001</td> <td>T0</td> </tr> </tbody> </table>			DATE	SCALE	NTS	FEB 2023	CHECKED	UMI KALSON	DRAWN : YMN	DESIGNED : GANNA	APPROVED : IR.ZAHROL	DRAWING NUMBER :		REVISION	AIS/2520016/CB11/25/MSB/001		T0
DATE	SCALE	NTS															
FEB 2023	CHECKED	UMI KALSON															
DRAWN : YMN	DESIGNED : GANNA	APPROVED : IR.ZAHROL															
DRAWING NUMBER :		REVISION															
AIS/2520016/CB11/25/MSB/001		T0															



This image shows a blank, off-white or light gray page. It has three circular punch holes along its left edge, suggesting it was part of a binder or folder. There is no text or other markings on the page.

A photograph of a control panel mounted on a light-colored metal cabinet. The panel features several analog gauges, digital displays, and a variety of control elements. On the left, there are two rectangular gauges above a vertical stack of three small rectangular displays. Below these are two yellow pushbutton switches. In the center, there is a horizontal row of four rectangular displays, followed by a row of four yellow pushbutton switches. To the right of this is a vertical stack of three rectangular displays, with two yellow pushbutton switches positioned below it. At the bottom, there is a horizontal row of four red circular indicator lights, followed by a row of four yellow pushbutton switches. A small red label with white text is visible at the bottom right corner of the panel.

A photograph of a control panel for an online analyser. The panel is light grey and features several components. At the top center is a black rectangular label with the white text "ON-LINE ANALYSER". To the right of the label is a vertical metal handle. Below the handle are two rectangular metal plates: one with a red indicator light and another with a blue indicator light.

CLIENT :  
 Air Selangor  
PENGURUSAN AIR SELANGOR SDN. BHD.  
(201401006213)

Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

**CLIENT'S STAMP & SIGNATURE**



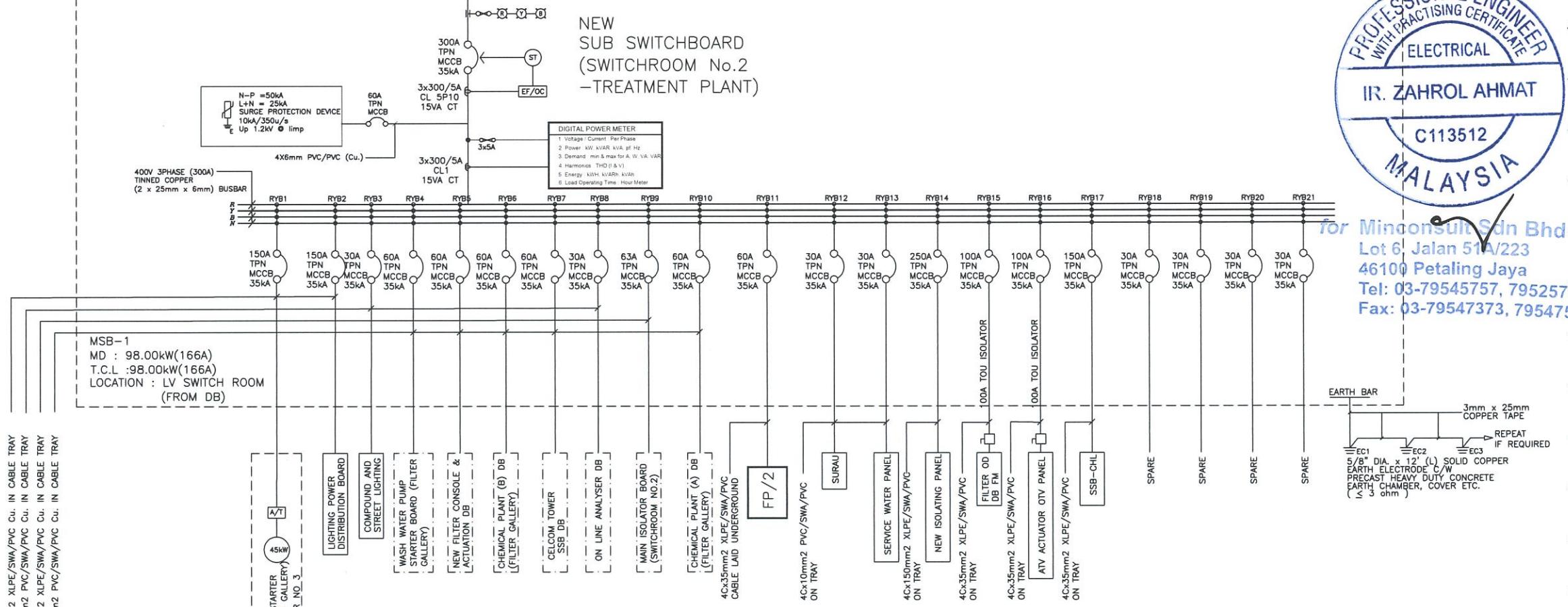
**PROJECT TITLE :**  
**EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs**

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

**NOTE :**  
1) CONTRACTOR SCOPE OF WORK  
ARE SHOWN IN CLOUDED.



for Minconsult Sdn Bhd  
Lot 6 Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575



CONSULTANTS CHOP & SIGNATURE

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

**CONTRACT TITLE :**

CHERAS MILE 11 WTP

DRAWING TITLE :

#### MAIN SINGLE LINE DIAGRAM (NEW)

DATE	FEB 2023	SCALE	N T S
DRAWN	YMN	CHECKED	UMI KALSUM
DESIGNED	GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER :			REVISION
AIS/2520016/CB11/25/MSB/002			T0

TENDER DRAWING

REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

DATE	FEB 2023	SCALE	N.T.S
DRAWN	YMN	CHECKED	UMI KALSOM
DESIGNED	GANNA	APPROVED	IR ZAHROL
DRAWING NUMBER :			REVISION
AIS/2520016/CB11/25/MSB/003			TO

FLOOR PLAN

for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

CLIENT :  
**Air Selangor**  
**PENGURUSAN AIR SELANGOR SDN. BHD.**  
 (201401006213)  
 Pengurusan Air Selangor Sdn. Bhd.  
 Level 4, Tower E,  
 Bangsar Trade Centre (Plaza Pantai),  
 59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
**MINCONSULT SDN. BHD.**  
 (Company No. : 58835-P)  
 minconsult  
 Lot 6, Jalan 51A / 223,  
 46100 Petaling Jaya, Selangor, Malaysia.  
 Tel : 603-79545757, 79525757  
 Fax : 603-79547373, 79547575

PROJECT TITLE :  
 EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE



for Minconsult Sdn Bhd  
 Lot 6, Jalan 51A/223  
 46100 Petaling Jaya  
 Tel: 03-79545757, 79525757  
 Fax: 03-79547373, 79547575

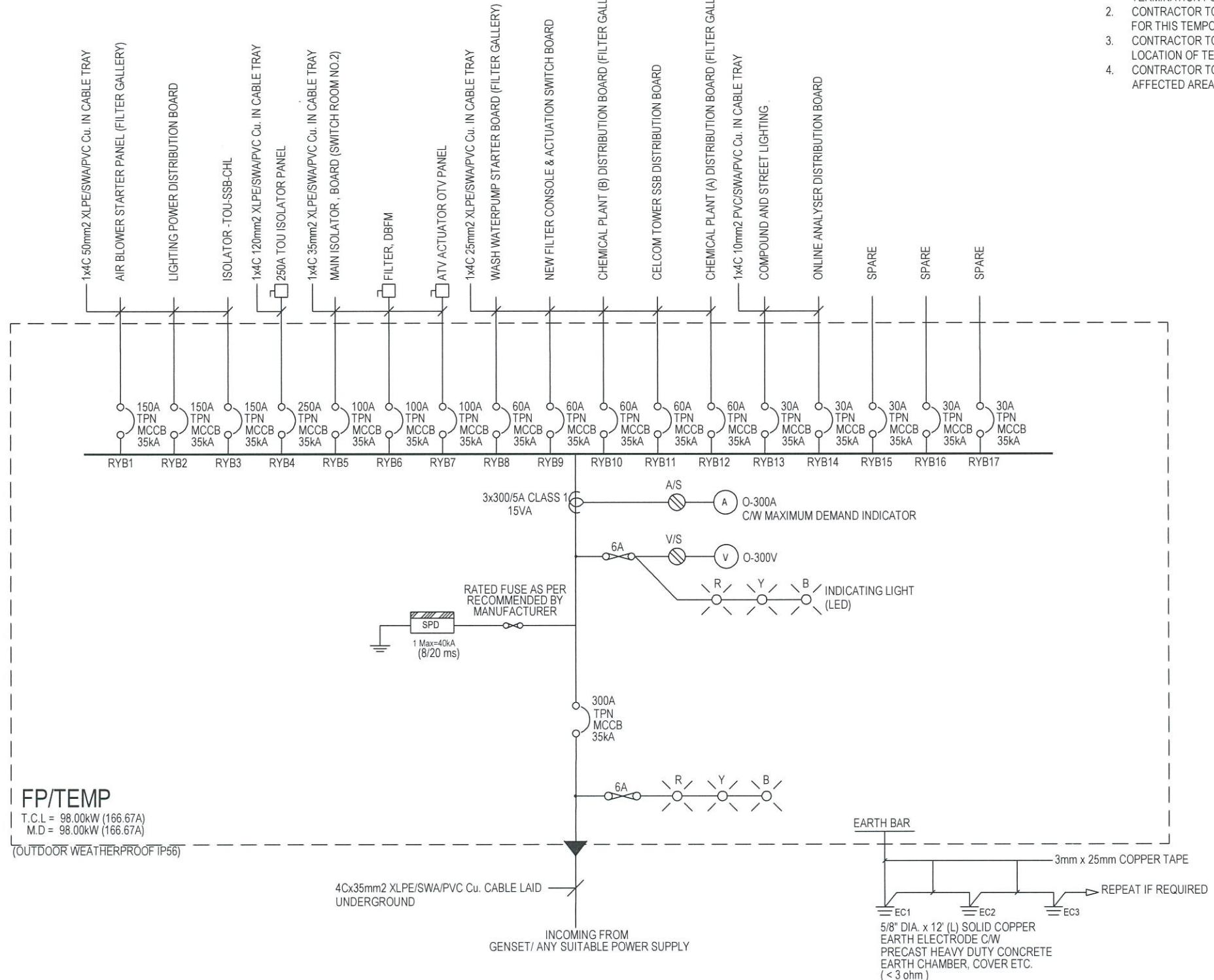
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TO	TENDER STAGE	FEB 2023

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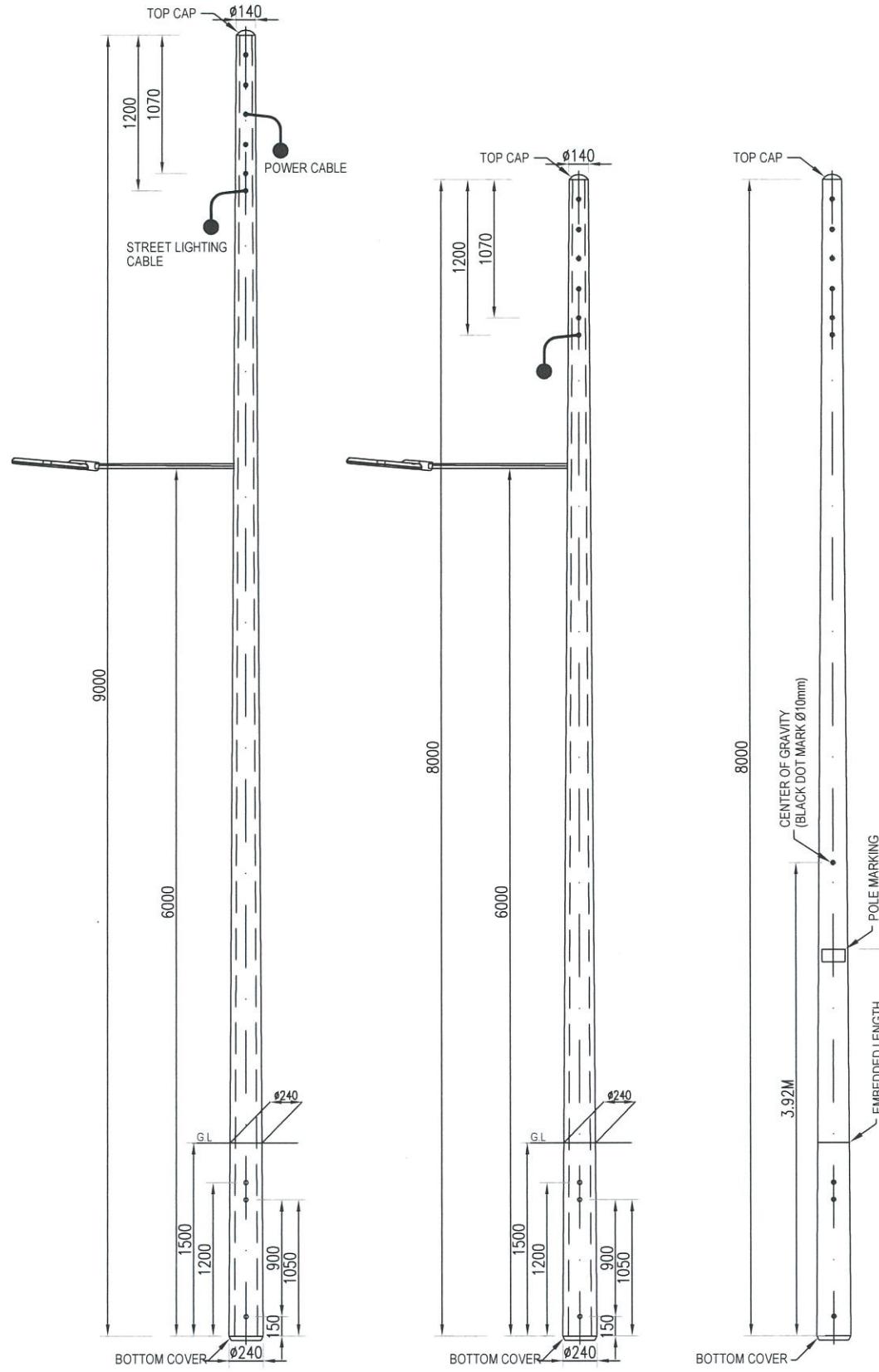
CHERAS MILE 11 WTP

DRAWING TITLE :
SCHEMATIC DIAGRAM FOR TEMPORARY FEEDER PILLAR

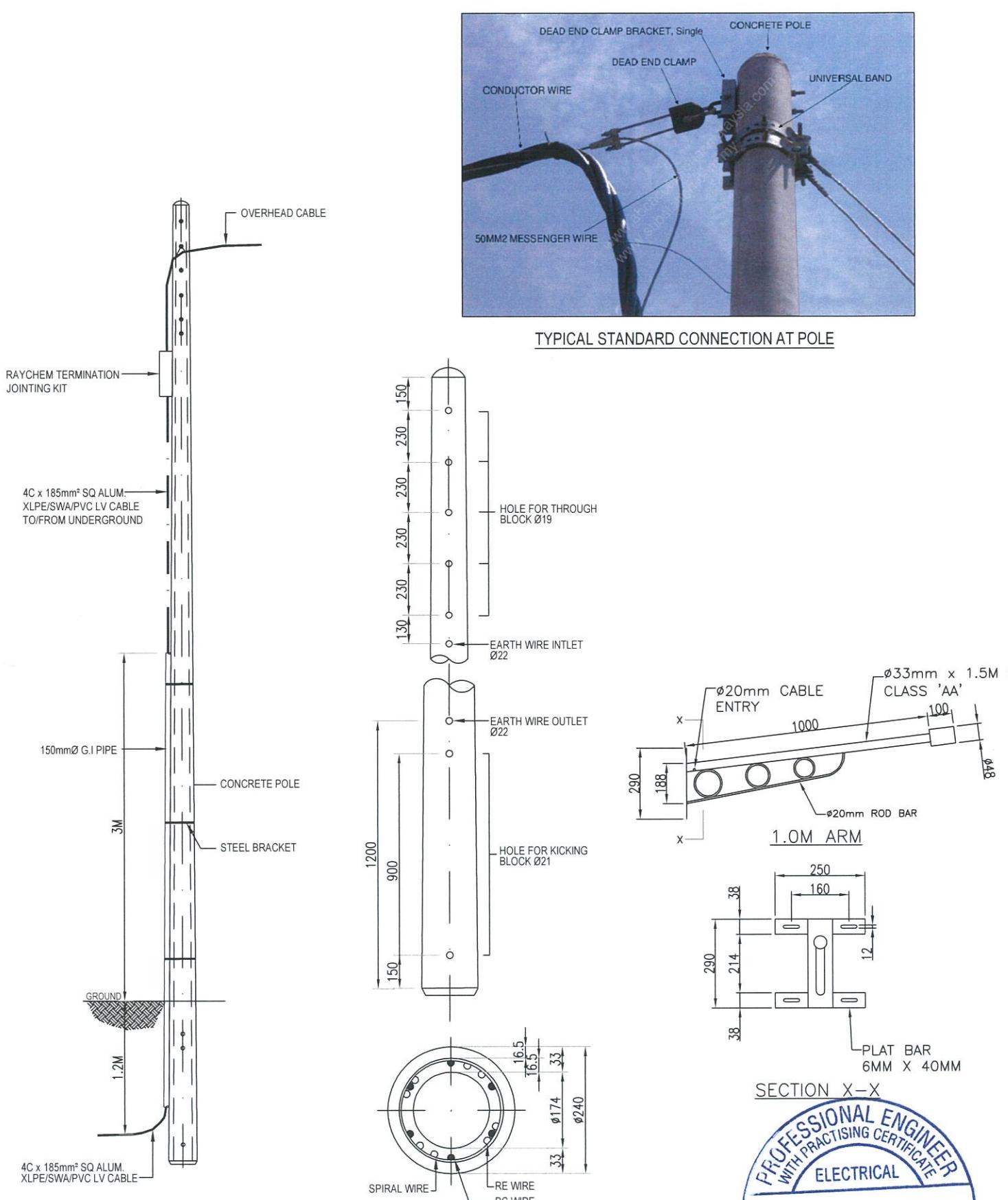
DATE	SCALE	NTS
DRAWN	YMN	CHECKED : UMI KALSON
DESIGNED	GANNA	APPROVED : IR.ZAHROL
DRAWING NUMBER : AIS/2520016/CB11/25/TFP/001		REVISION T0



TENDER DRAWING



## TYPICAL CABLE JOINTING FROM UNDERGROUND TO OVERHEAD

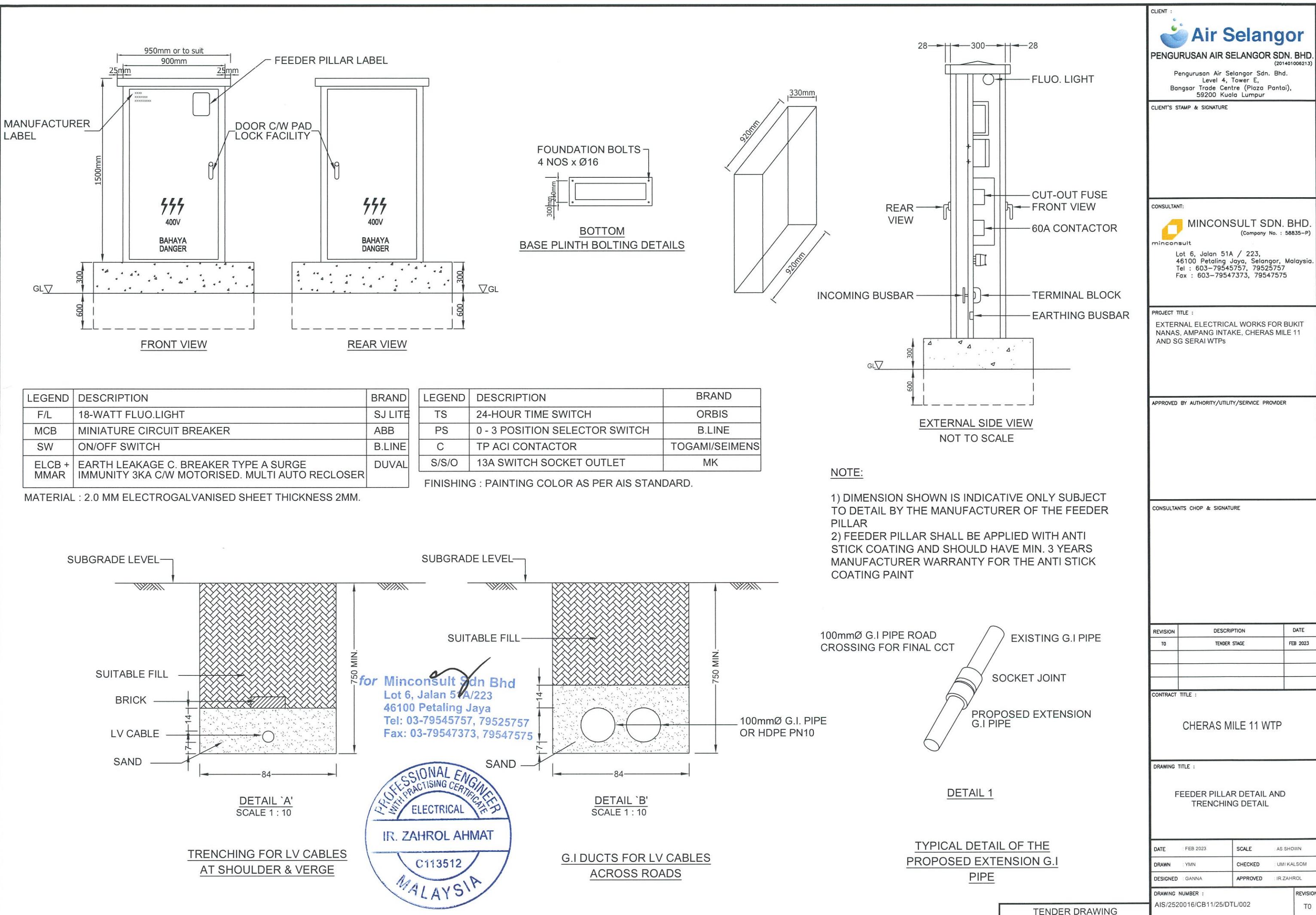


**for Minconsult Sdn Bhd**  
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46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575



TENDER DRAWING

CLIENT :		<b>Air Selangor</b>	
<b>PENGURUSAN AIR SELANGOR SDN. BHD.</b> (201401006213)			
Pengurusan Air Selangor Sdn. Bhd. Level 4, Tower E, Bangsar Trade Centre (Plaza Pantai), 59200 Kuala Lumpur			
CLIENT'S STAMP & SIGNATURE			
CONSULTANT:			
 <b>MINCONSULT SDN. BHD.</b> (Company No. : 58835-P) <b>minconsult</b>		Lot 6, Jalan 51A / 223, 46100 Petaling Jaya, Selangor, Malaysia. Tel : 603-79545757, 79525757 Fax : 603-79547373, 79547575	
PROJECT TITLE :			
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs			
APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER			
CONSULTANTS CHOP & SIGNATURE			
REVISION	DESCRIPTION		DATE
TO	TENDER STAGE		FEB 2023
CONTRACT TITLE :			
CHERAS MILE 11 WTP			
DRAWING TITLE :			
CONCRETE POLE DETAIL			
DATE	FEB 2023	SCALE	NTS
DRAWN	YMN	CHECKED	UMI KALSUM
DESIGNED	GANNA	APPROVED	MIR ZAHROL
DRAWING NUMBER :			REVISION
AIS/2520016/CB11/25/DTL/001			T0



Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
  
**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

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REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

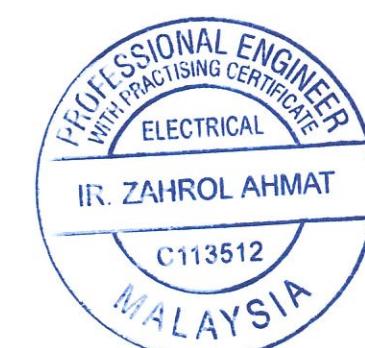
CONTRACT TITLE :

SG. SERAI WTP

DRAWING TITLE :

LIST OF DRAWINGS

DATE	SCALE	NTS
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DESIGNED : GANNA	APPROVED : IR.ZAHROL	REVISION
DRAWING NUMBER : AIS/2520016/SS/25/LIST/001		REVISION TO



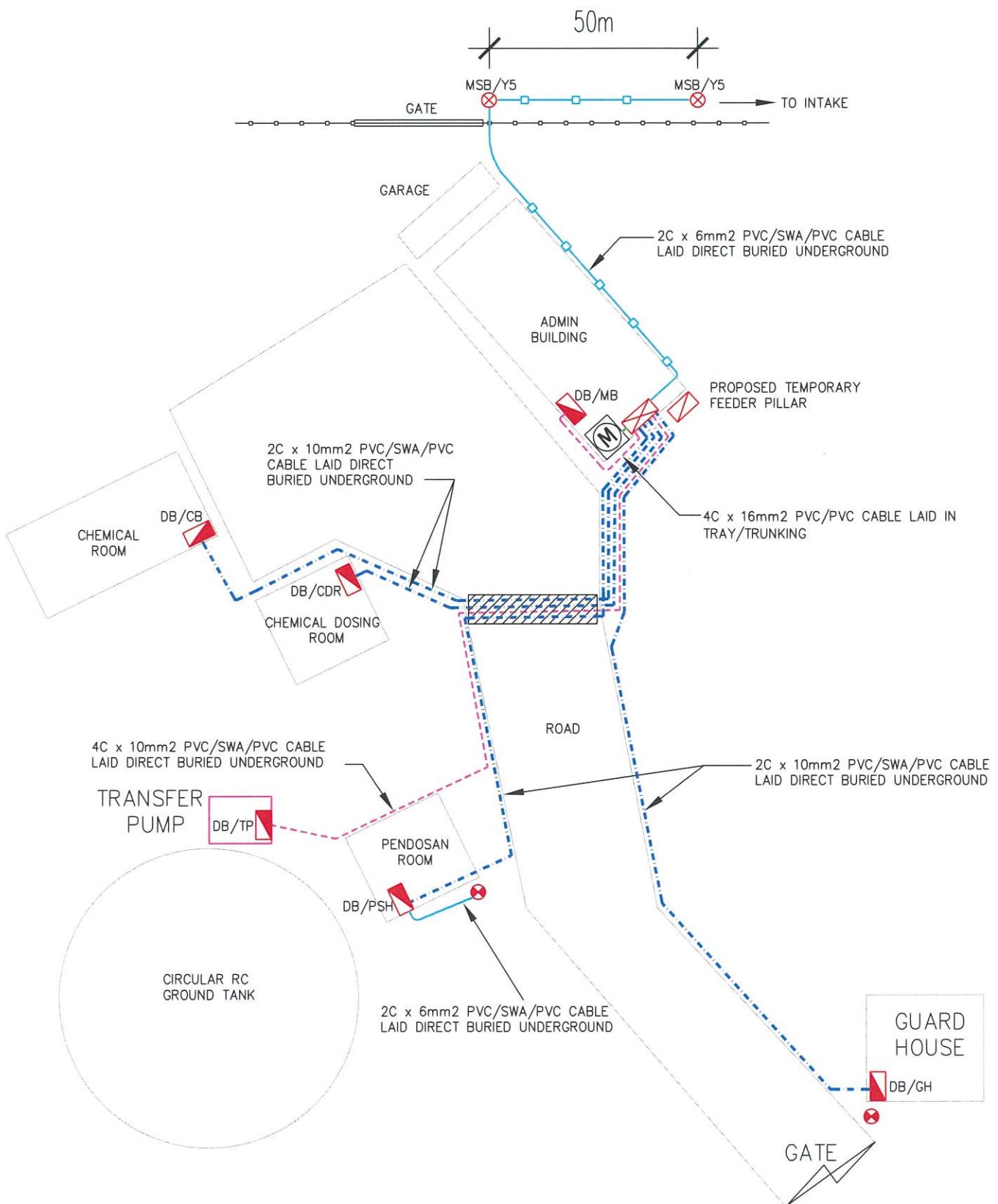
for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
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TENDER DRAWING

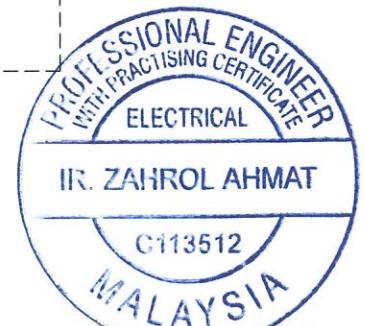
 <p><b>PENGURUSAN AIR SELANGOR SDN. BHD.</b> (201401006213)</p> <p>Pengurusan Air Selangor Sdn. Bhd. Level 4, Tower E, Bangsar Trade Centre (Plaza Pantai), 59200 Kuala Lumpur</p> <p>CLIENT'S STAMP &amp; SIGNATURE</p>	<p><b>CONSULTANT:</b> <b>MINCONSULT SDN. BHD.</b> (Company No. : 58835-P) minconsult Lot 6, Jalan 51A / 223, 46100 Petaling Jaya, Selangor, Malaysia. Tel : 603-79545757, 79525757 Fax : 603-79547373, 79547575</p> <p>PROJECT TITLE : EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs</p> <p>APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER</p> <p>CONSULTANTS CHOP &amp; SIGNATURE</p> <p>REVISION      DESCRIPTION      DATE</p> <p>TO      TENDER STAGE      FEB 2023</p> <p>CONTRACT TITLE : SG. SERAI WTP</p> <p>DRAWING TITLE :</p> <p>EXTERNAL ELECTRICAL CABLE ROUTE</p> <p>DATE      FEB 2023      SCALE      NTS</p> <p>DRAWN      YMN      CHECKED      UMI KALSON</p> <p>DESIGNED      GANNA      APPROVED      IR ZAHROL</p> <p>DRAWING NUMBER : AIS/2520016/LD/25/EXT/001      REVISION T0</p>
--	--

### LEGEND

SYMBOL	DESCRIPTION	QTY
⊗	1x100W LED STREET LIGHTING C/W 6m HIGH HDG FOLDABLE POLE FLANCED TYPE ( TILT AT 15 )	2
—	4C x 35mm <sup>2</sup> XLPE/PVC CABLE LAID IN TRAY/TRUNKING	
- - -	4C x 16mm <sup>2</sup> PVC/PVC CABLE LAID IN TRAY/TRUNKING	
- - -	2C x 10mm <sup>2</sup> PVC/SWA/PVC CABLE LAID DIRECT BURIED UNDERGROUND	
—	2C x 6mm <sup>2</sup> PVC/SWA/PVC CABLE LAID DIRECT BURIED UNDERGROUND	
▨	150mm DIA. G.I PIPE	
☒	MAIN SWITCHBOARD (MSB)	1
☒	DISTRIBUTION BOARD (DB)	6
☒	PROPOSED TEMPORARY FEEDER PILLAR	1
Ⓜ	METERING PANEL	1
⊗	EXISTING COMPOUND LIGHTING TO REPLACE WITH 100W LED COMPOUND LIGHTING ( TO REMAIN THE EXISTING POLE )	2



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
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REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

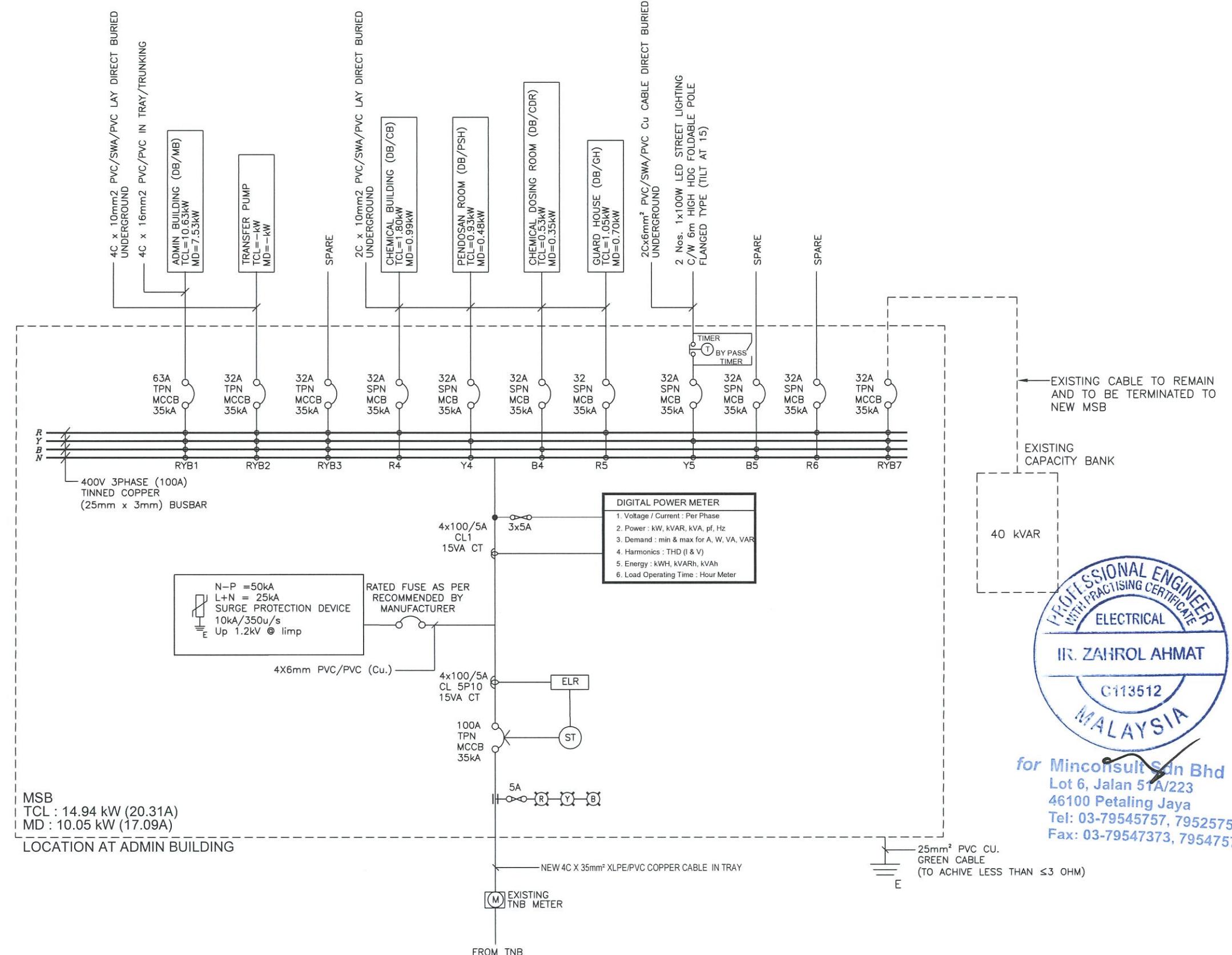
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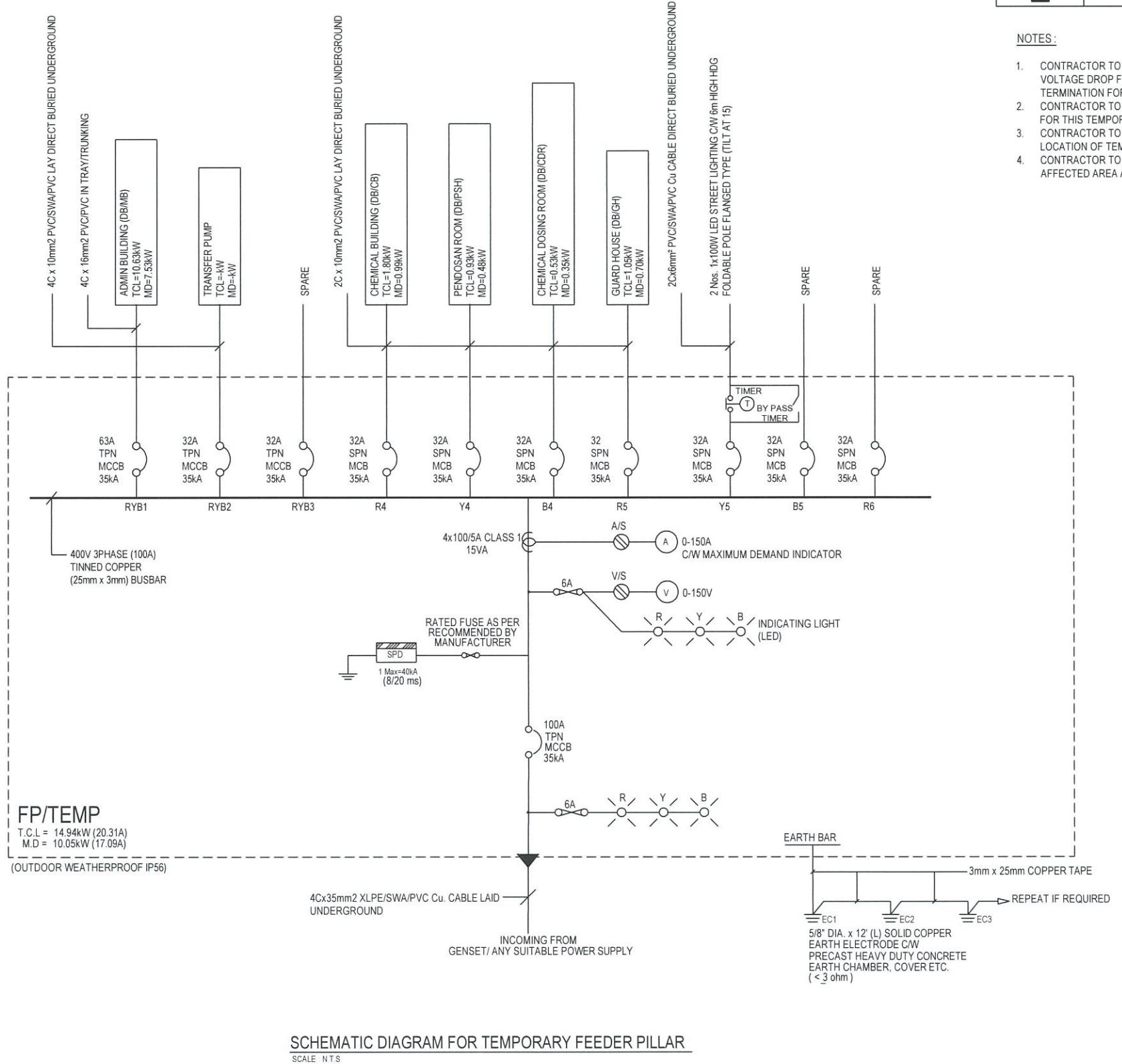
SG. SERAI WTP

DRAWING TITLE :

SINGLE LINE DIAGRAM  
FOR NEW MSB

DATE	SCALE	NTS
FEB 2023		
DRAWN	CHECKED	REVIEWED
YMN		
DESIGNED	APPROVED	IR.ZAHROL
GANNA		
DRAWING NUMBER :	REVISION	
AIS/2520016/SS/25/MSB/001		T0





SYMBOL	DESCRIPTION
	1x50W LED STREET LIGHTING MOUNTED AT EXISTING 3mH HDG POLE
	DIGITAL PHOTOCELL
	TIME SWITCH
	SELECTOR SWITCH
	HEAT SHRINKABLE TERMINATION
	CABLE GLAND

LEGEND

- |  |  |
|--|--|
|  | 1x50W LED STREET LIGHTING MOUNTED AT EXISTING 3mH HDG POLE |
|  | DIGITAL PHOTOCELL  |
|  | TIME SWITCH  |
|  | SELECTOR SWITCH  |
|  | HEAT SHRINKABLE TERMINATION                                |
|  | CABLE GLAND  |

NOTES:

  1. CONTRACTOR TO CONSIDER THE RUNNING AMP AND VOLTAGE DROP FOR ALL CABLING WORKS AND TERMINATION FOR THE TEMPORARY FEEDER PILLAR.
  2. CONTRACTOR TO PRICE IN FOR ALL THE CABLING WORKS FOR THIS TEMPORARY FEEDER PILLAR.
  3. CONTRACTOR TO LIAISE WITH AIs FOR THE SUITABLE LOCATION OF TEMPORARY FEEDER PILLAR C/W PLINTH.
  4. CONTRACTOR TO DISMANTLE AND MAKE GOOD OF THE Affected AREA AFTER ENERGIZED OF THE NEW MSB.

NOTE

1. CONTRACTOR TO CONSIDER THE RUNNING AMP AND VOLTAGE DROP FOR ALL CABLING WORKS AND TERMINATION FOR THE TEMPORARY FEEDER PILLAR.
2. CONTRACTOR TO PRICE IN FOR ALL THE CABLING WORKS FOR THIS TEMPORARY FEEDER PILLAR.
3. CONTRACTOR TO LIAISE WITH AFS FOR THE SUITABLE LOCATION OF TEMPORARY FEEDER PILLAR C/W PLINTH.
4. CONTRACTOR TO DISMANTLE AND MAKE GOOD OF THE Affected AREA AFTER ENERGIZED OF THE NEW MSB.



**for Minconsult Sdn Bhd**  
Lot 6, Jalan 51A/223  
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TENDER DRAWING

The image shows the Air Selangor logo, which consists of a blue stylized water droplet above the word "Air Selangor". Below the logo, the text "PENGURUSAN AIR SELANGOR SDN. BHD." is written in a bold, black, sans-serif font. Underneath that, the registration number "(201401006213)" is shown in parentheses. At the bottom, there is a return address in a smaller, regular black font: "Pengurusan Air Selangor Sdn. Bhd.", "Level 4, Tower E," "Bangsar Trade Centre (Plaza Pantai),", and "59200 Kuala Lumpur".

**CLIENT'S STAMP & SIGNATURE**

**CONSULTANT:**

**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)

**minconsult**

Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79547575, 79525757  
Fax : 603-79547373, 79547575

**PROJECT TITLE :**  
**EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs**

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

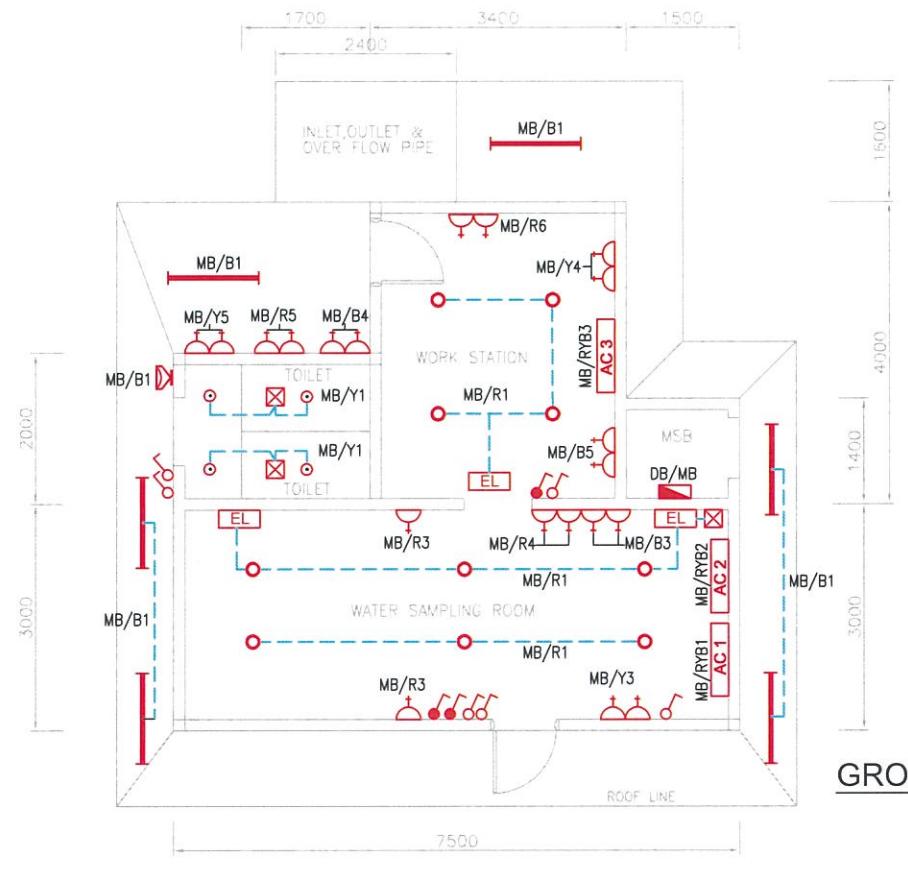
REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CONTRACT TITLE :

**DRAWING TITLE :**

**SCHEMATIC DIAGRAM FOR TEMPORARY  
EFFECTED PILLAR**

DATE	FEB 2023	SCALE	NTS
DRAWN	YMN	CHECKED	UMI KALSON
DESIGNED	GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER :			REVISION
AIS/2520016/SS/25/TFP/001			T0

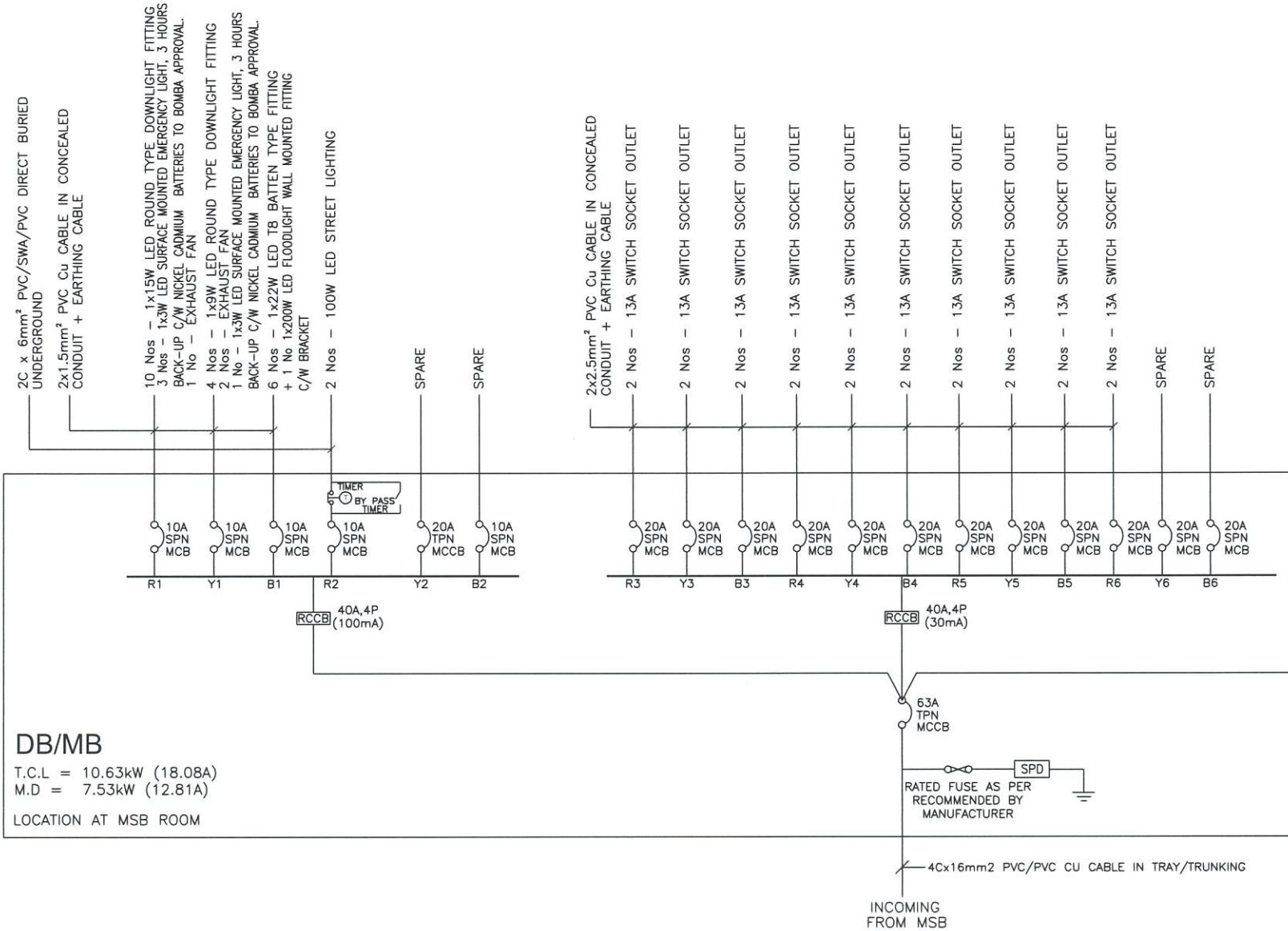


## GROUND FLOOR PLAN

LEGEND		
SYMBOL	DESCRIPTION	QTY
	1x22W LED T8 BATTEN TYPE FITTING	6
	1x15W LED ROUND TYPE DOWNLIGHT FITTING C/W GLASS DIFFUSER RECESSED MOUNTED (6")	10
	1x9W LED ROUND TYPE DOWNLIGHT FITTING C/W GLASS DIFFUSER RECESSED MOUNTED (4")	4
	1x200W WEATHERPROOF LED FLOODLIGHT WALL MOUNTED FITTING C/W BRACKET	1
	1x3W LED SURFACE MOUNTED EMERGENCY LIGHT, 3 HOURS BACK-UP C/W NICKEL CADMIUM BATTERIES TO BOMBA APPROVAL.	3
	13A SWITCH SOCKET OUTLET	20
	ICT SOCKET	
	10A ONE-WAY SWITCH	6
	AIR COND SWITCH C/W INDICATOR	3
	DISTRIBUTION BOARD (DB)	1
	EXHAUST FAN	2



**for Minconsult Sun Bhd**  
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DB/MB

T.C.L = 10.63kW (18.08A)  
 M.D = 7.53kW (12.81A)

LOCATION AT MSB ROOM

<b>Air Selangor</b> <b>PENGURUSAN AIR SELANGOR SDN. BHD.</b> (201401006213)			
Pengurusan Air Selangor Sdn. Bhd. Level 4, Tower E, Bangsar Trade Centre (Plaza Pantai), 59200 Kuala Lumpur			
CLIENT'S STAMP & SIGNATURE			
<b>CONSULTANT:</b>  <b>MINCONSULT SDN. BHD.</b> (Company No. : 58835-P) <b>minconsult</b> Lot 6, Jalan 51A / 223, 46100 Petaling Jaya, Selangor, Malaysia. Tel : 603-79547577, 79525757 Fax : 603-79547373, 79547575			
<b>PROJECT TITLE :</b> EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs			
APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER			
CONSULTANTS CHOP & SIGNATURE			
REVISION	DESCRIPTION	DATE	
TO	TENDER STAGE	FEB 2023	
CONTRACT TITLE :			
SG. SERAI WTP			
<b>DRAWING TITLE :</b> <b>MAIN BUILDING</b> LIGHTING, SMALL POWER LAYOUT AND SINGLE LINE DIAGRAM			
DATE	FEB 2023	SCALE	1:50
DRAWN	YMN	CHECKED	UMI KALSUM
DESIGNED	GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER :			REVISION
AIS/2520016/MB/25/MB/LT/001			TO

CONSULTANT:  
**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

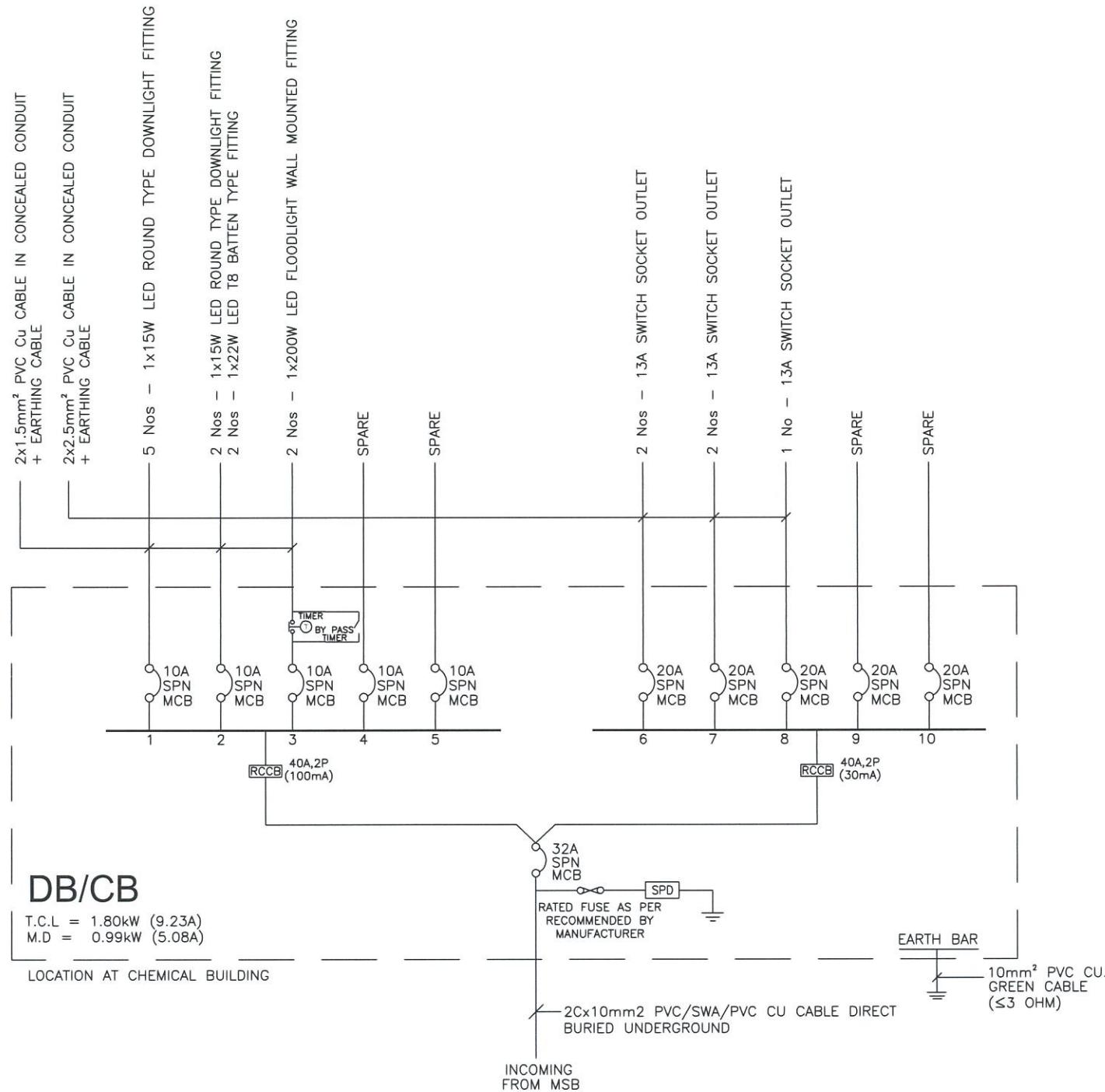
REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

CONTRACT TITLE :

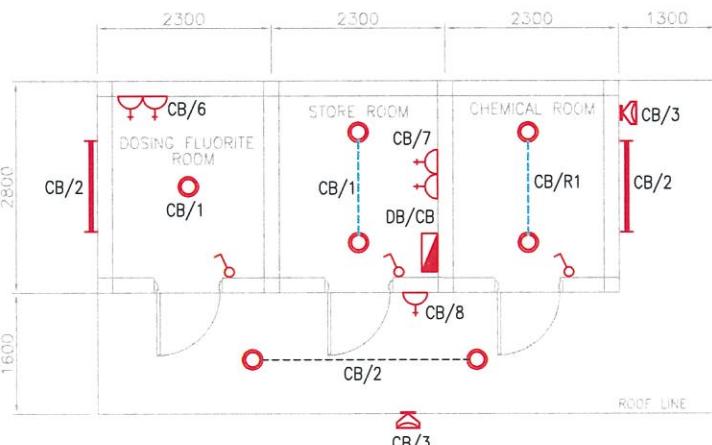
SG. SERAI WTP

DRAWING TITLE :		
CHEMICAL BUILDING LIGHTING, SMALL POWER LAYOUT AND SINGLE LINE DIAGRAM		

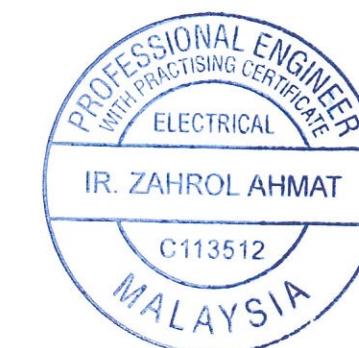
DATE	FEB 2023	SCALE	: 1:50
DRAWN	YMN	CHECKED	: UMI KALSOM
DESIGNED	GANNA	APPROVED	: IR.ZAHROL
DRAWING NUMBER : AIS/2520016/SS/25/CB/LT/001			REVISION T0



LEGEND	
	1x22W LED T8 BATTEN TYPE FITTING
	1x15W LED ROUND TYPE DOWNLIGHT FITTING C/W GLASS DIFFUSER RECESSED MOUNTED (4")
	1x200W WEATHERPROOF LED FLOODLIGHT WALL MOUNTED FITTING C/W BRACKET
	13A SWITCH SOCKET OUTLET
	10A ONE-WAY SWITCH
	DISTRIBUTION BOARD (DB)



GROUND FLOOR PLAN



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

TENDER DRAWING

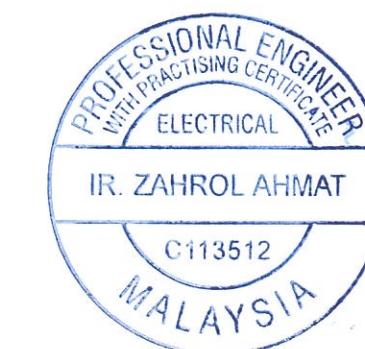
REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

CONTRACT TITLE :

SG. SERAI WTP

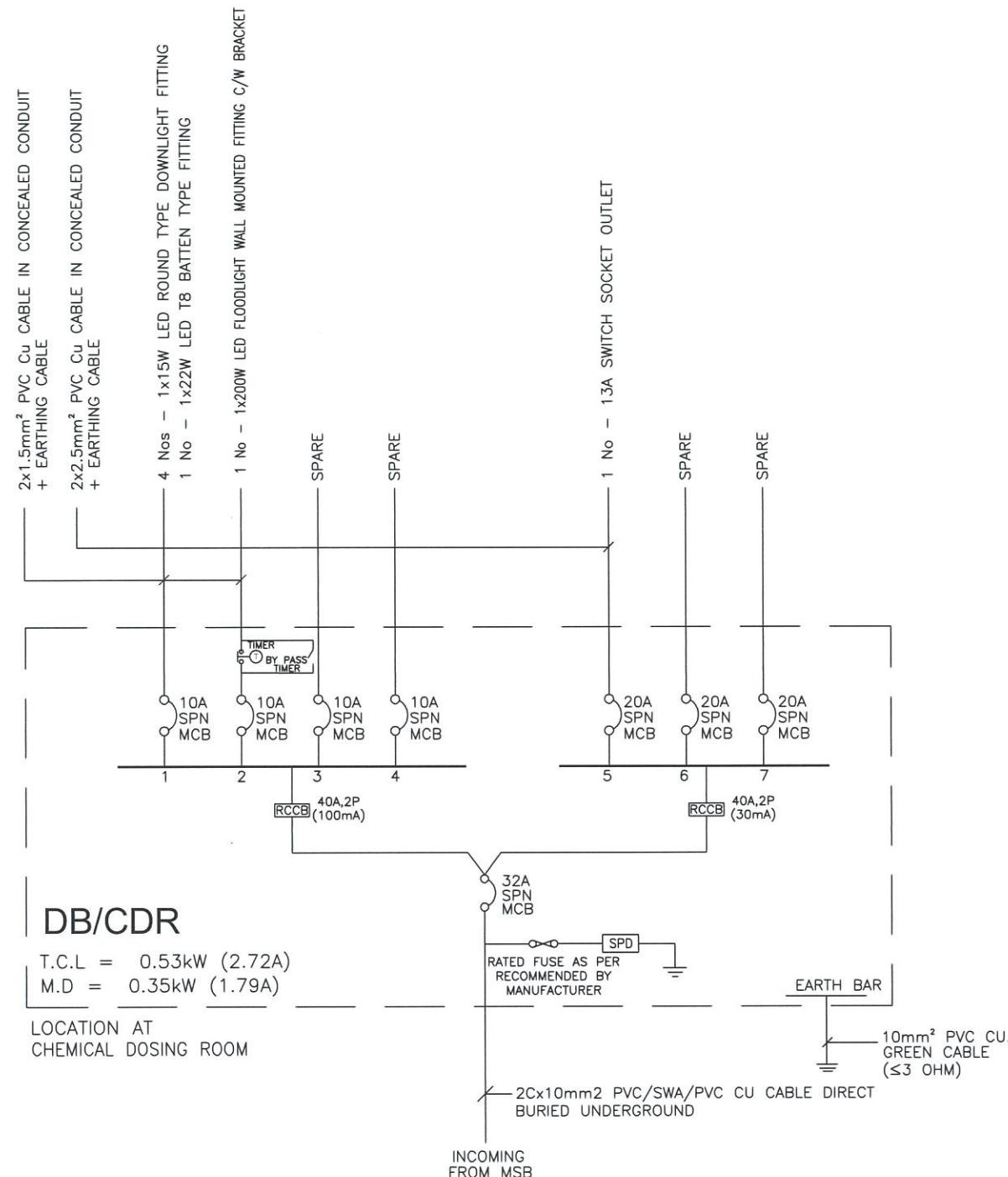
DRAWING TITLE :  
CHEMICAL DOSING ROOM  
LIGHTING, SMALL POWER LAYOUT  
AND SINGLE LINE DIAGRAM

DATE	FEB 2023	SCALE	1:50
DRAWN	YMN	CHECKED	UMI KALSON
DESIGNED	GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER : AIS/2520016/SS/25/CDR/LT/001			REVISION T0

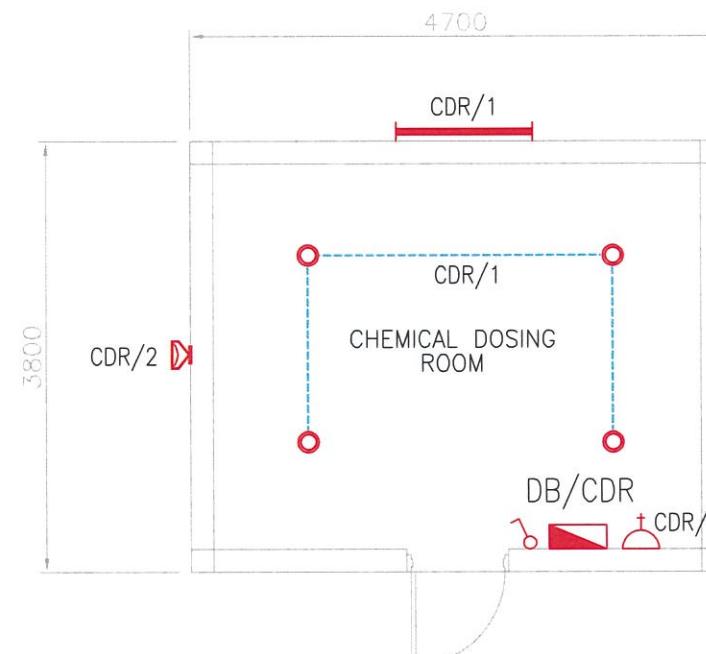


for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

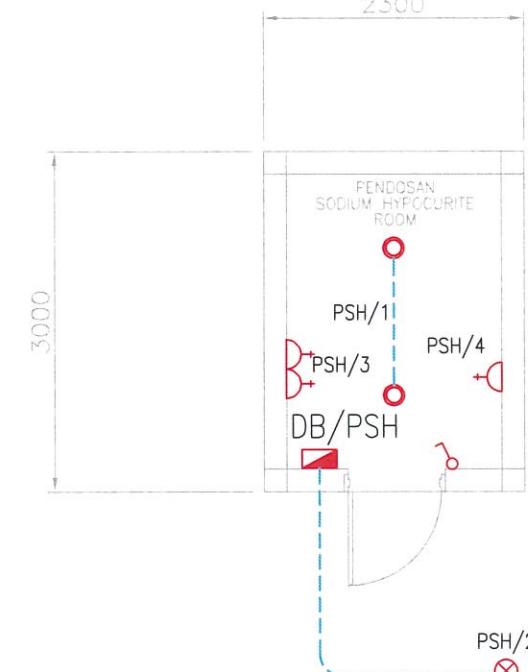
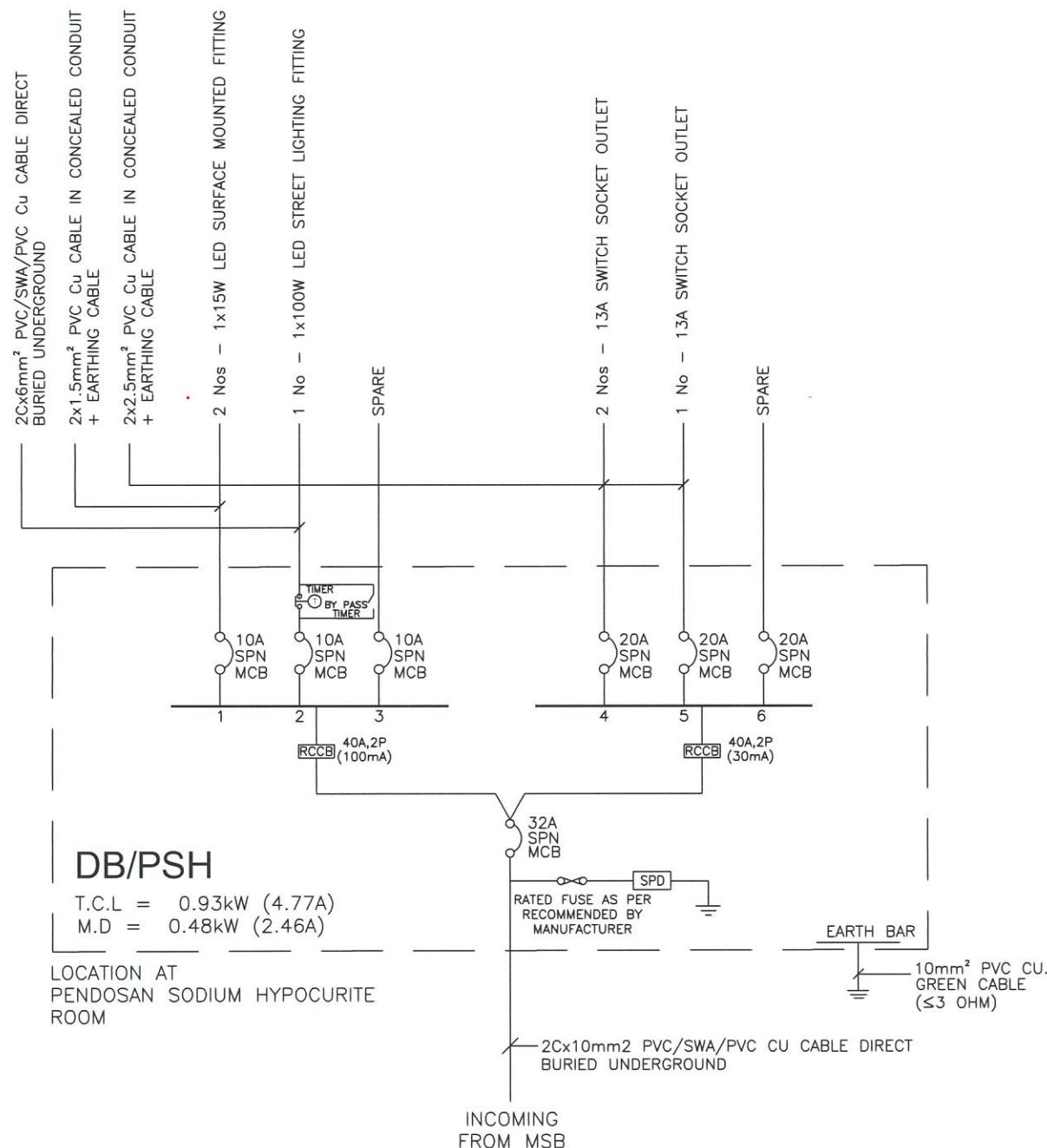
TENDER DRAWING



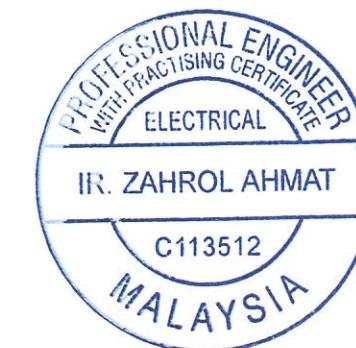
LEGEND		
SYMBOL	DESCRIPTION	QTY
	1x22W LED T8 BATTEN TYPE FITTING	1
	1x15W LED ROUND TYPE DOWNLIGHT FITTING C/W GLASS DIFFUSER RECESSED MOUNTED (4")	4
	13A SWITCH SOCKET OUTLET	1
	10A ONE-WAY SWITCH	1
	DISTRIBUTION BOARD (DB)	1
	1x200W WEATHERPROOF LED FLOODLIGHT WALL MOUNTED FITTING C/W BRACKET	1



GROUND FLOOR PLAN



GROUND FLOOR PLAN

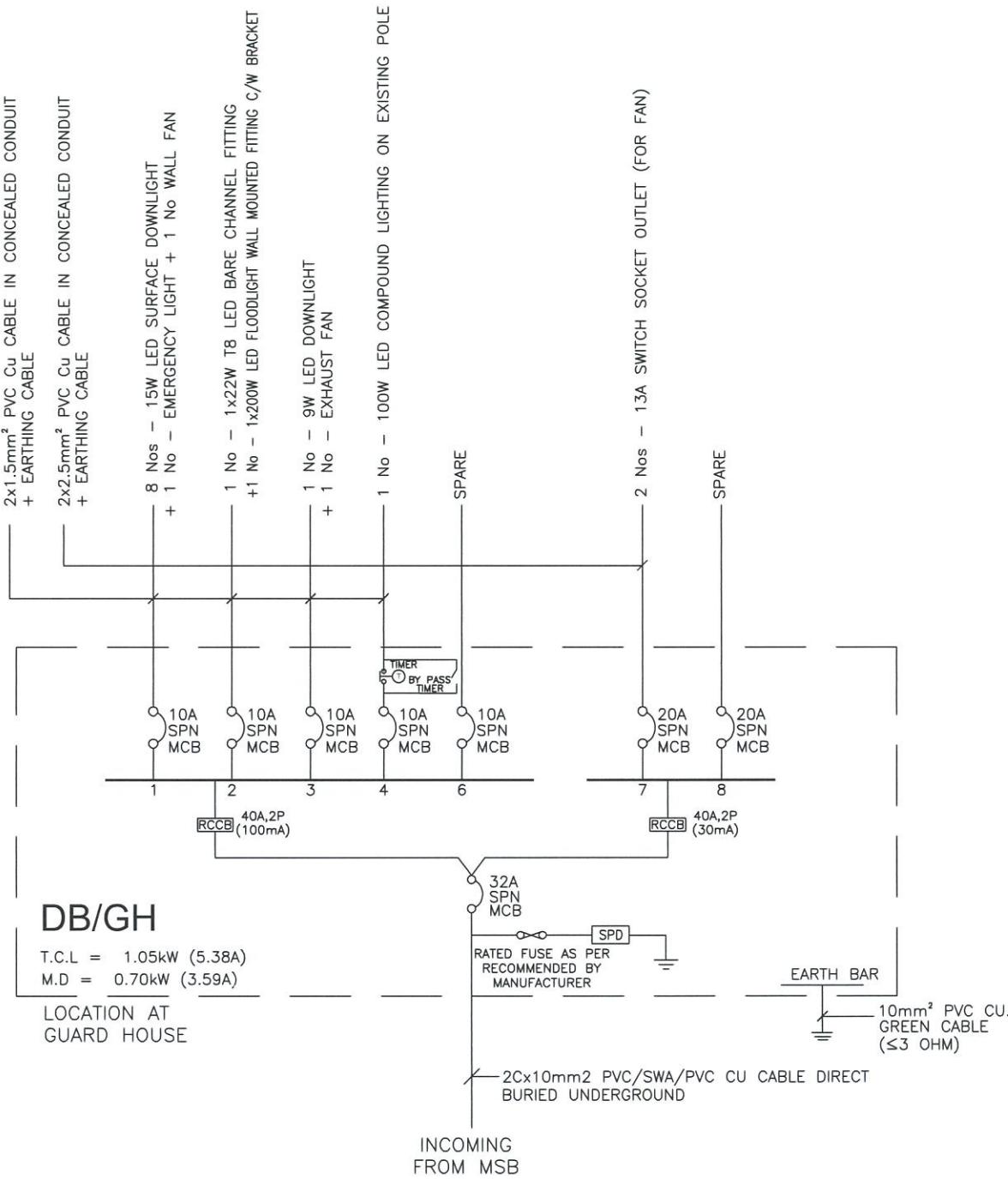


for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

TENDER DRAWING

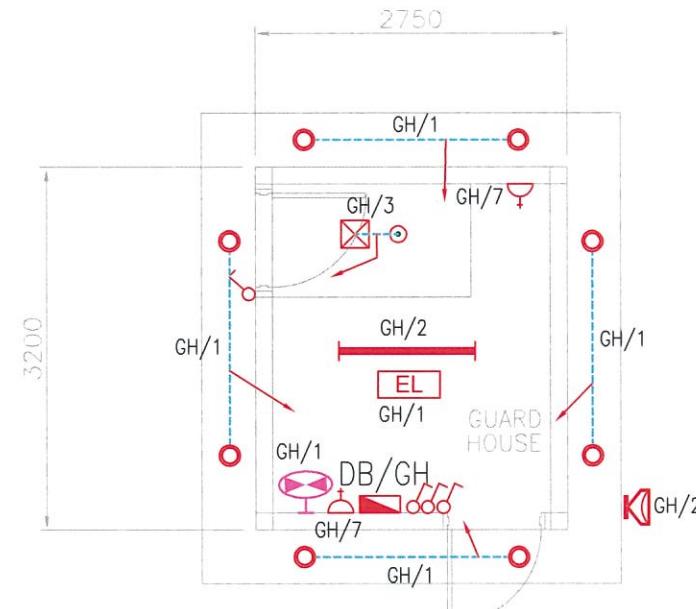
REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

DATE	FEB 2023	SCALE	1:50
DRAWN	YMN	CHECKED	UMI KALSON
DESIGNED	GANNA	APPROVED	IR ZAHROL
DRAWING NUMBER : AIS/2520016/MB/25/GH/LT/001			REVISION T0

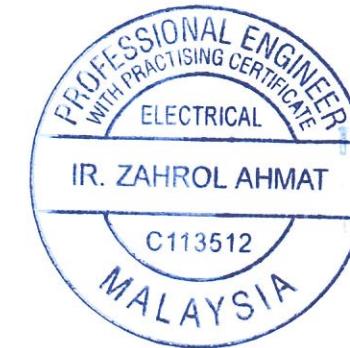


LEGEND

SYMBOL	DESCRIPTION	QTY
—	1x22W LED T8 BATTEN TYPE FITTING	1
○	1x9W LED ROUND TYPE DOWNLIGHT FITTING C/W GLASS DIFFUSER RECESSED MOUNTED (4")	1
○	1x15W LED DOWNLIGHT FITTING C/W DIFFUSER SURFACE MOUNTED	8
☒	1x200W WEATHERPROOF LED FLOODLIGHT WALL MOUNTED FITTING C/W BRACKET	1
EL	1x3W LED SURFACE MOUNTED EMERGENCY LIGHT, 3 HOURS BACK-UP C/W NICKEL CADMIUM BATTERIES TO BOMBA APPROVAL.	1
▲	13A SWITCH SOCKET OUTLET	2
■	WALL FAN	1
☒	EXHAUST FAN	1
○	10A ONE-WAY SWITCH	4
■	DISTRIBUTION BOARD (DB)	1



GROUND FLOOR PLAN

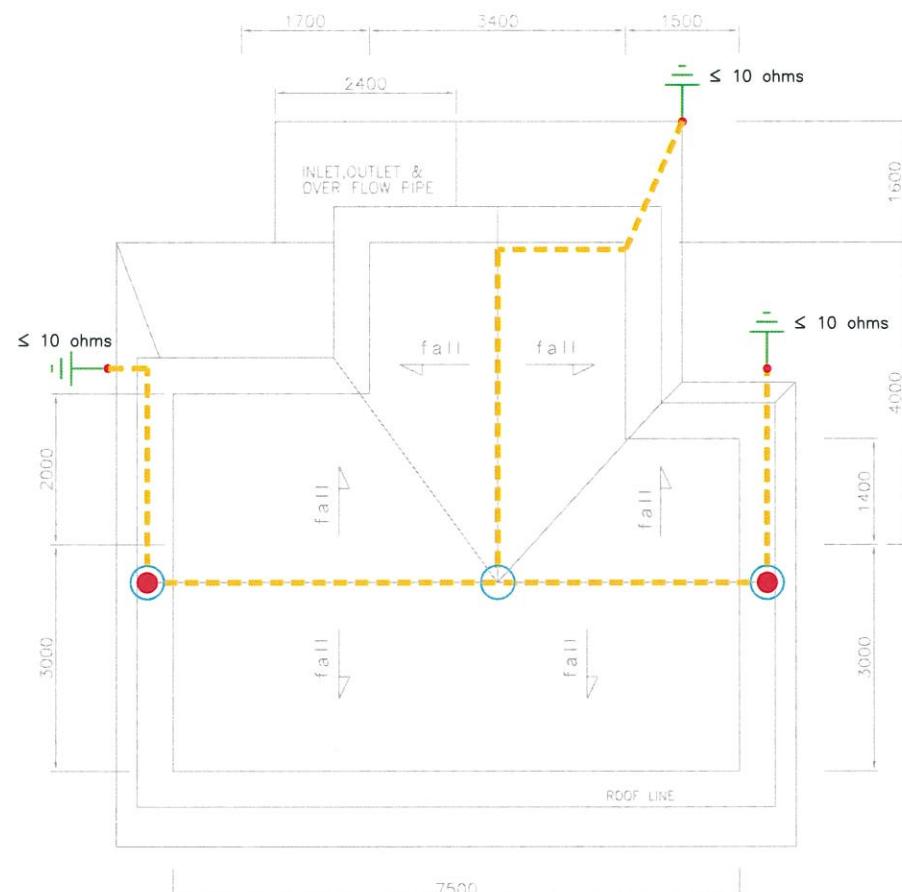


for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

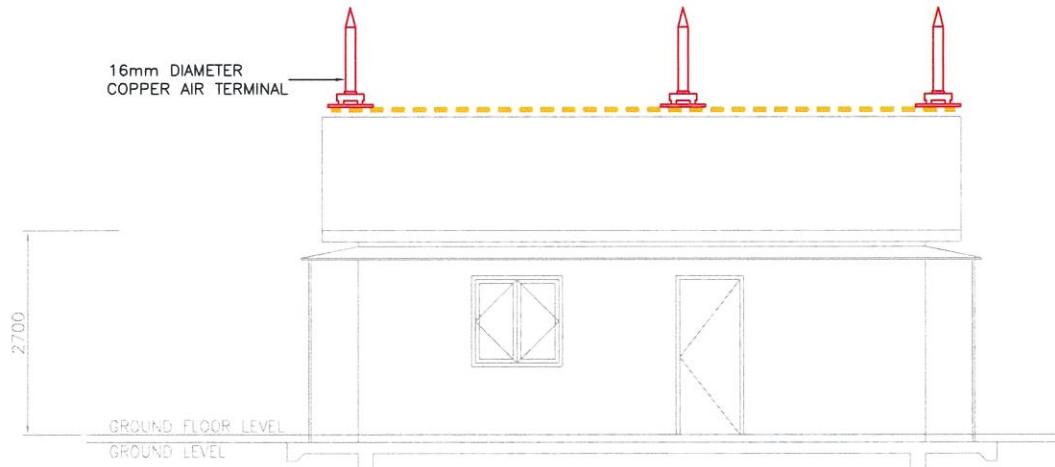
TENDER DRAWING

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

DATE : FEB 2023	SCALE : 1:50
DRAWN : YMN	CHECKED : UMI KALSON
DESIGNED : GANNA	APPROVED : IR.ZAHROL
DRAWING NUMBER : AIS/2520016/SS/25/MB/LNG/001	REVISION T0



ROOF PLAN



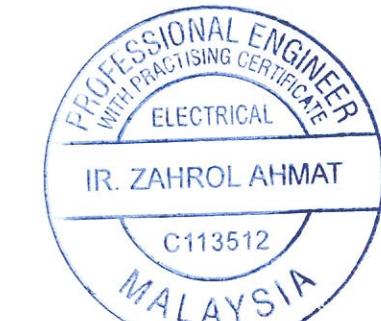
ELEVATION 1  
(FRONT VIEW)

**LEGEND**

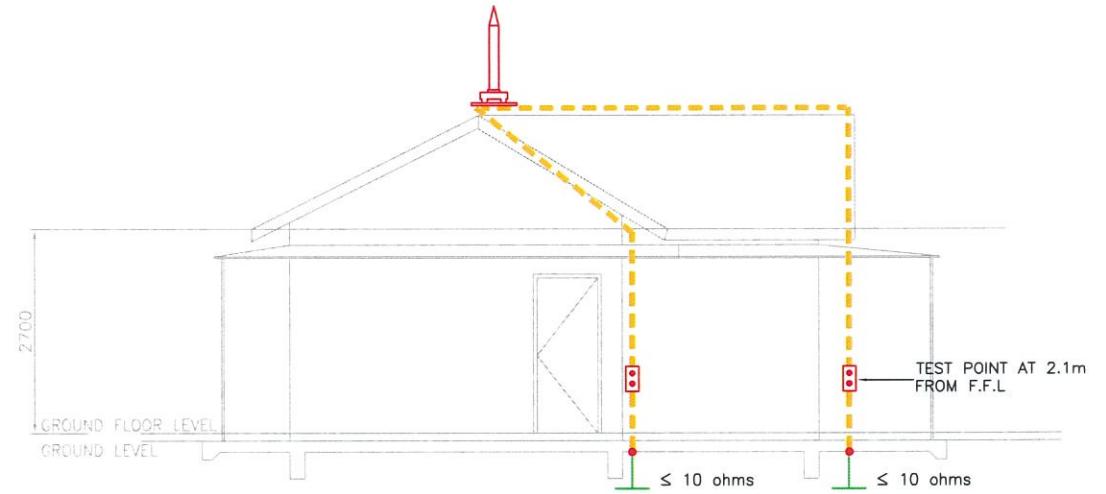
SYMBOL	DESCRIPTION	QTY
	25mm x 3mm BARE COPPER TAPE (ROOF)	
	16mm DIAMETER COPPER ROD AT 500mm HIGH	3
	25mm x 3mm BARE COPPER TAPE DOWN CONDUCTORS CONCEALED IN UPVC PIPE	
	AIR TERMINAL	3
	HEAVY DUTY CONCRETE EARTH CHAMBER c/w EARTH ROD	3
	4 POLES TEST POINT	3

NOTES:-

1. CONTRACTOR TO SUBMIT METHOD OF STATEMENT AND SHOP DRAWINGS FOR APPROVAL
2. CONTRACTOR SHALL COMPLETE THE WORKS AND MUST ACHIEVE THE RESISTANCE READING ( $\leq 10 \text{ ohms}$ ) AS PER MS (IEC 62305:2010)



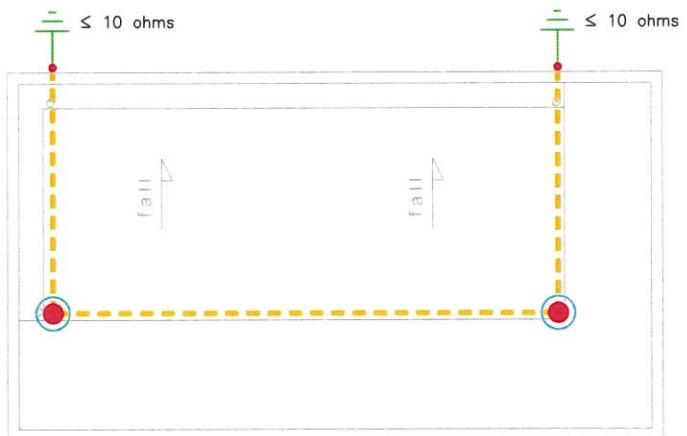
for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/23  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575



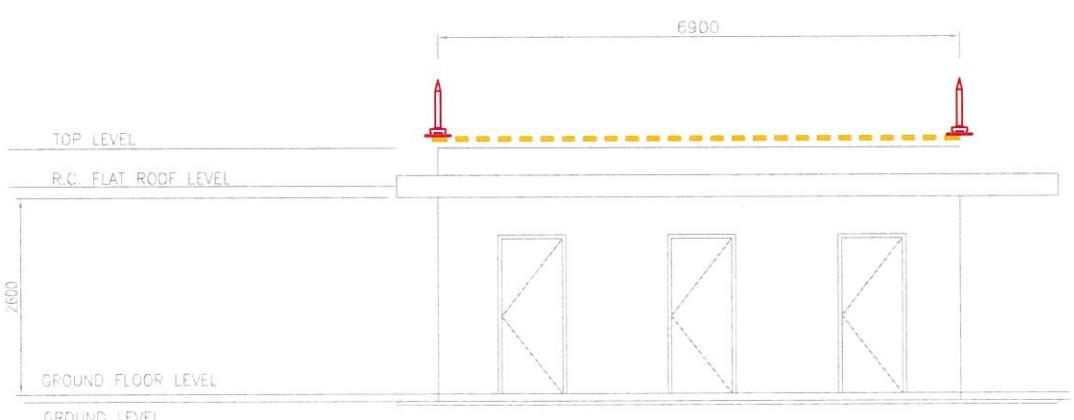
ELEVATION 2  
(SIDE VIEW)

REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

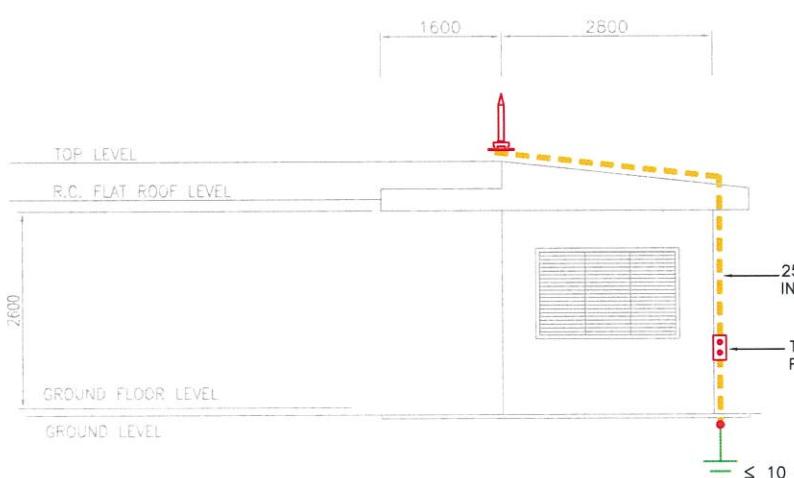
DATE	FEB 2023	SCALE	: 1:50
DRAWN	YMN	CHECKED	: UMI KALSON
DESIGNED	GANNA	APPROVED	: IR.ZAHROL
DRAWING NUMBER :	AIS/2520016/SS/25/CB/LNG/001		
REVISION	T0		



ROOF PLAN



ELEVATION 1  
(FRONT VIEW)



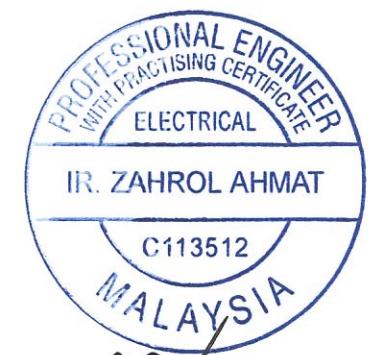
ELEVATION 2  
(SIDE VIEW)

LEGEND

SYMBOL	DESCRIPTION	QTY
---	25mm x 3mm BARE COPPER TAPE (ROOF)	
○	16mm DIAMETER COPPER ROD AT 500mm HIGH	2
●	25mm x 3mm BARE COPPER TAPE DOWN CONDUCTORS CONCEALED IN UPVC PIPE	
▲	AIR TERMINAL	2
—	HEAVY DUTY CONCRETE EARTH CHAMBER c/w EARTH ROD	2
■	4 POLES TEST POINT	2

NOTES:-

1. CONTRACTOR TO SUBMIT METHOD OF STATEMENT AND SHOP DRAWINGS FOR APPROVAL
2. CONTRACTOR SHALL COMPLETE THE WORKS AND MUST ACHIEVE THE RESISTANCE READING ( $\leq 10$  ohms) AS PER MS (IEC 62305:2010)



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT NANAS, AMPANG INTAKE, CHERAS MILE 11 AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

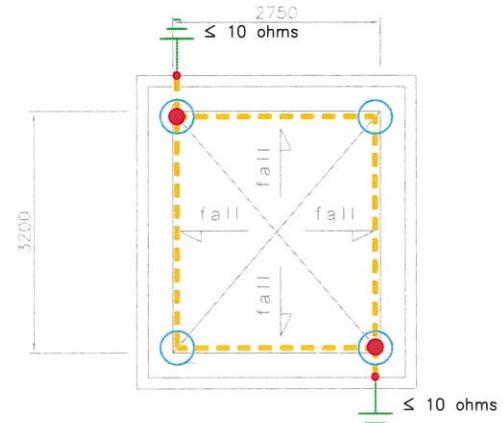
CONTRACT TITLE :

SG. SERAI WTP

DRAWING TITLE :  
**GUARD HOUSE**  
LIGHTNING PROTECTION SYSTEM

DATE	SCALE	1:50
DRAWN : YMN	CHECKED : UMI KALSOM	
DESIGNED : GANNA	APPROVED : IR.ZAHROL	
DRAWING NUMBER : AIS/2520016/SS/25/GH/LNG/001		REVISION T0

TENDER DRAWING

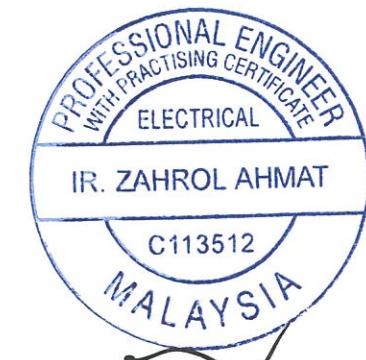


ROOF PLAN

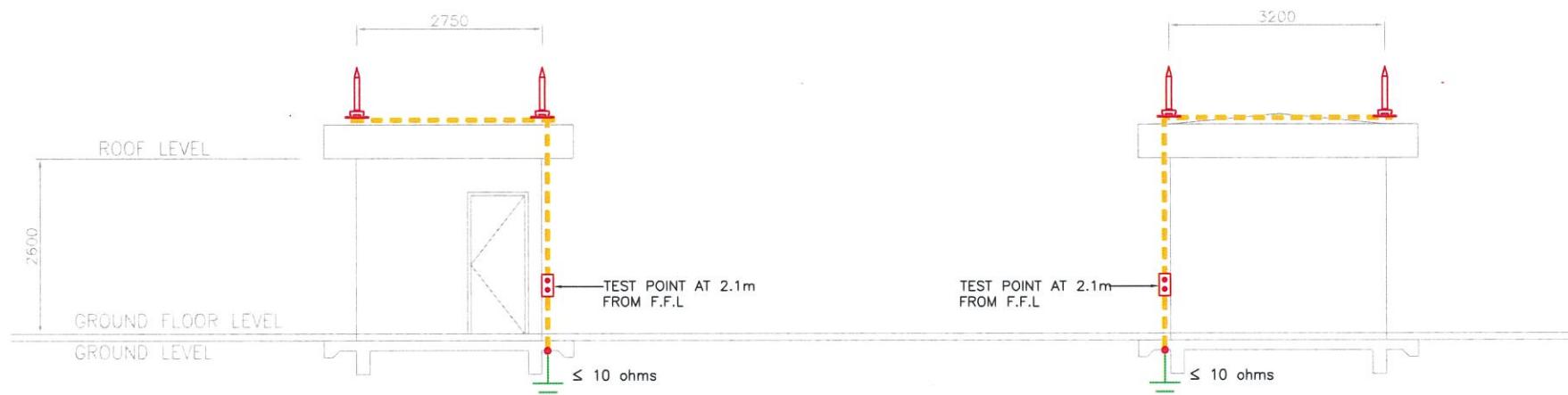
**LEGEND**

SYMBOL	DESCRIPTION	QTY
---	25mm x 3mm BARE COPPER TAPE (ROOF)	
○	16mm DIAMETER COPPER ROD AT 500mm HIGH	4
●	25mm x 3mm BARE COPPER TAPE DOWN CONDUCTORS CONCEALED IN UPVC PIPE	
▲	AIR TERMINAL	4
---	HEAVY DUTY CONCRETE EARTH CHAMBER c/w EARTH ROD	2
■■■	4 POLES TEST POINT	2

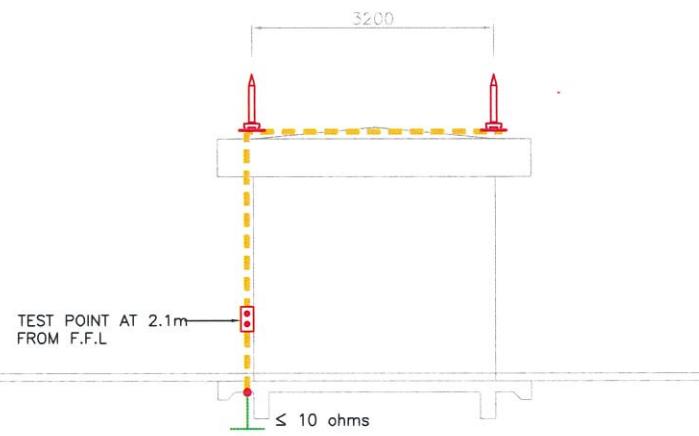
NOTES:-  
1.CONTRACTOR TO SUBMIT METHOD OF STATEMENT AND SHOP DRAWINGS FOR APPROVAL  
2.CONTRACTOR SHALL COMPLETE THE WORKS AND MUST ACHIEVE THE RESISTANCE READING ( $\leq 10$  ohms) AS PER MS (IEC 62305:2010)



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575



ELEVATION 1  
(FRONT VIEW)



ELEVATION 2  
(SIDE VIEW)

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
**MINCONSULT SDN. BHD.**  
(Company No. : 58835-P)  
minconsult  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT  
NANAS, AMPANG INTAKE, CHERAS MILE 11  
AND SG SERAI WTPs

APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

REVISION	DESCRIPTION	DATE
TO	TENDER STAGE	FEB 2023

CONTRACT TITLE :

SG. SERAI WTP

DRAWING TITLE :

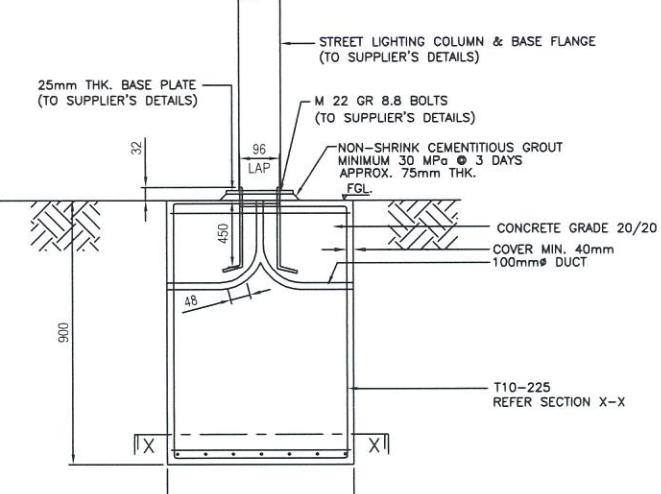
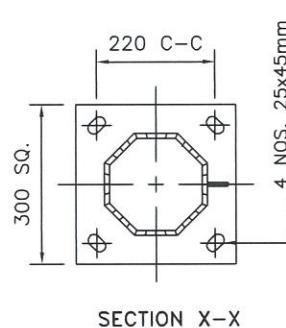
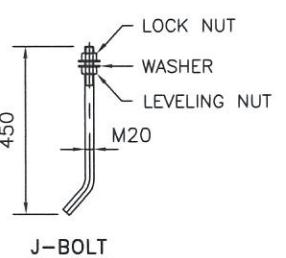
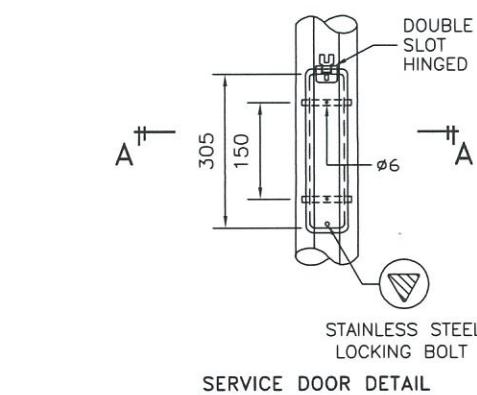
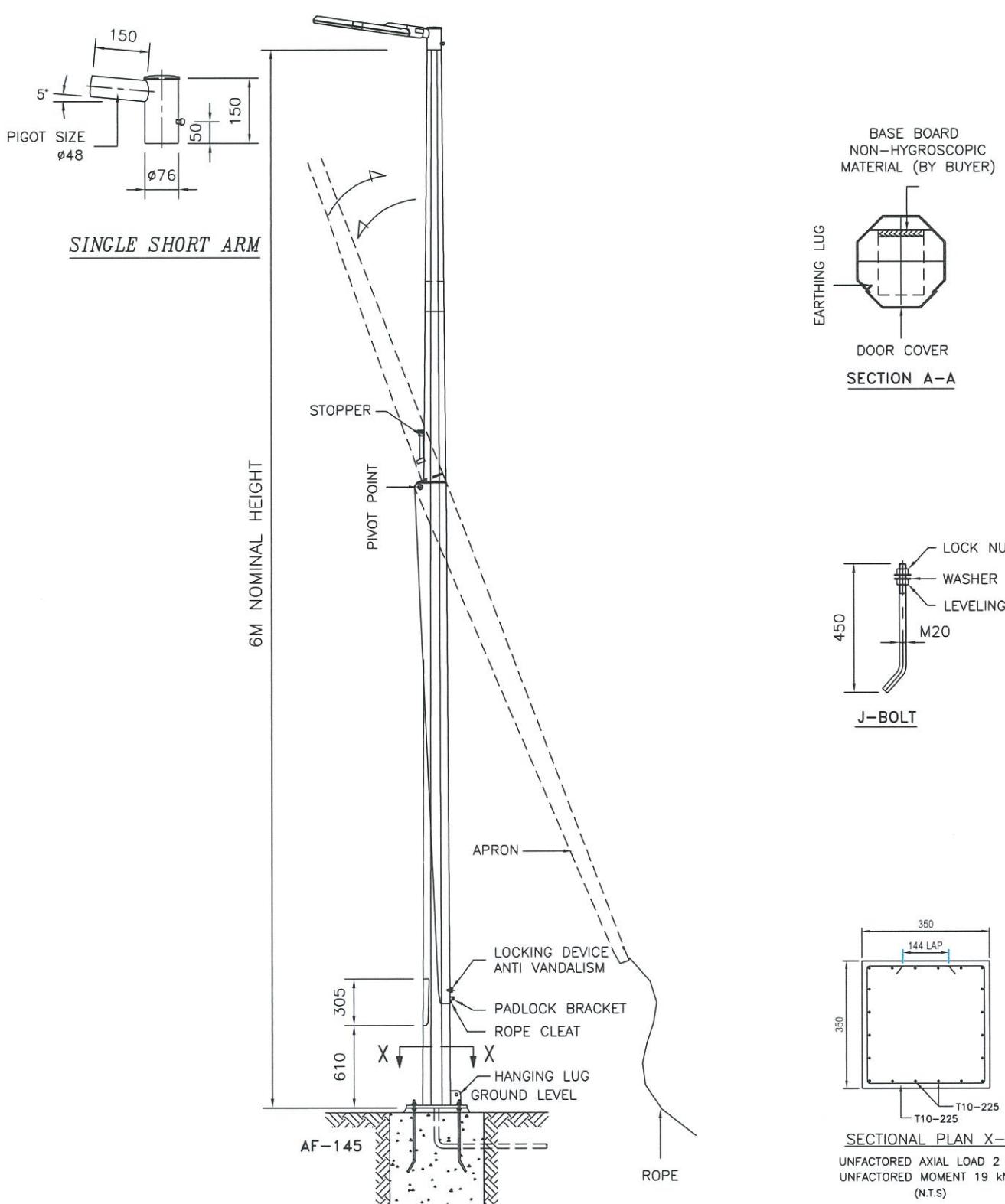
STREET LIGHTING POLE DETAIL

DATE	FEB 2023	SCALE	NTS
DRAWN	YMN	CHECKED	UMI KALSON
DESIGNED	GANNA	APPROVED	IR.ZAHROL
DRAWING NUMBER :			REVISION
AIS/2520016/SS/25/DTL/001			T0

TENDER DRAWING

### TECHNICAL SPECIFICATIONS

- THE COLUMNS SHALL BE DESIGNED TO WITHSTAND WIND SPEED OF 35M PER SECOND, TOPOGRAPHY, GROUND ROUGHNESS & STATISTICAL FACTOR OF 1.0.
- COLUMNS SHALL BE MANUFACTURED IN COMPLIANCE TO BRITISH STANDARD BS EN 40.
- MATERIALS USED FOR LIGHTING COLUMNS SHALL COMPLY WITH BS EN 10025 S275 /JIS G3101 SS400.
- LIGHTING COLUMNS SHALL BE LONGITUDINALLY SEAM WELDED CONFORM TO BS 5135 BY AUTOMATIC CONTINUOUS METAL INERT GAS (MIG) PROCESS.
- COLUMNS SHALL BE ANTI-CORRODED BY HOT-DIP GALVANISED, COMPLIANCE WITH GALVANIZING STANDARD BS EN ISO 1461.
- SERVICES DOOR DIMENSIONS ARE GIVEN AS A GUIDE ONLY. THE ENGINEER MUST SATISFY HIMSELF THAT DIMENSIONS GIVEN ARE ADEQUATE FOR THE INSTALLATION OF THE REQUIRED CONTROL GEAR.
- ALL DIMENSION SHALL BE IN(MM), UNLESS OTHERWISE SPECIFIED.
- MATERIAL TOLERANCE: UNLESS OTHERWISE SPECIFIED, ALL MATERIAL TOLERANCES SHALL BE IN ACCORDANCE TO:  
BS EN 10029 (STEEL PLATE)  
BS EN 10255 (STEEL TUBE / HOLLOW SQUARE)  
BS EN 10056 (STEEL ANGLE)



DETAIL 'A'  
(N.T.S.)



for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575

TENDER DRAWING

CLIENT :  
**Air Selangor**  
PENGURUSAN AIR SELANGOR SDN. BHD.  
(201401006213)

Pengurusan Air Selangor Sdn. Bhd.  
Level 4, Tower E,  
Bangsar Trade Centre (Plaza Pantai),  
59200 Kuala Lumpur

CLIENT'S STAMP & SIGNATURE

CONSULTANT:  
**MINCONSULT SDN. BHD.**  
(minconsult)  
Lot 6, Jalan 51A / 223,  
46100 Petaling Jaya, Selangor, Malaysia.  
Tel : 603-79545757, 79525757  
Fax : 603-79547373, 79547575

PROJECT TITLE :  
EXTERNAL ELECTRICAL WORKS FOR BUKIT  
NANAS, AMPANG INTAKE, CHERAS MILE 11  
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APPROVED BY AUTHORITY/UTILITY/SERVICE PROVIDER

CONSULTANTS CHOP & SIGNATURE

REVISION	DESCRIPTION	DATE
T0	TENDER STAGE	FEB 2023

CONTRACT TITLE :

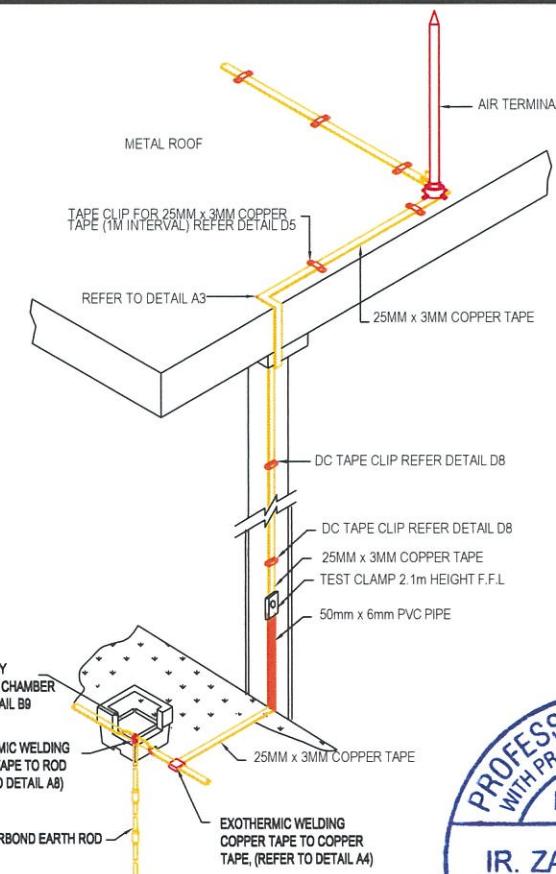
SG SERAI WTP

DRAWING TITLE :

LIGHTNING PROTECTION  
SYSTEM DETAIL

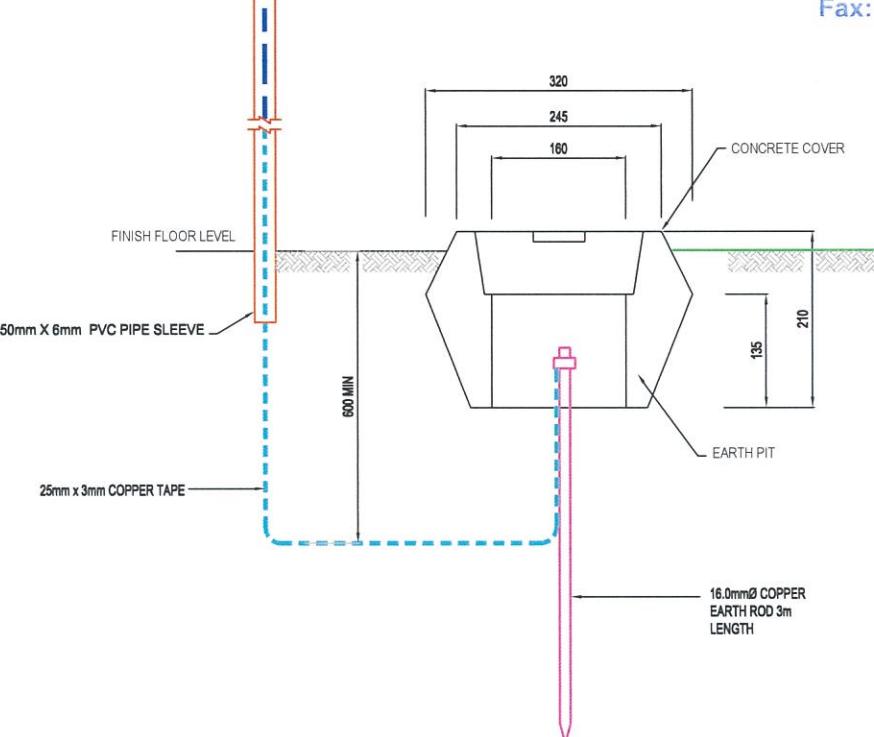
DATE : FEB 2023	SCALE : N.T.S
DRAWN : YMN	CHECKED : UMI KALSON
DESIGNED : GANNA	APPROVED : IR.ZAHROL
DRAWING NUMBER : AIS/2520016/SS/25/DTL/002	REVISION TO

TENDER DRAWING



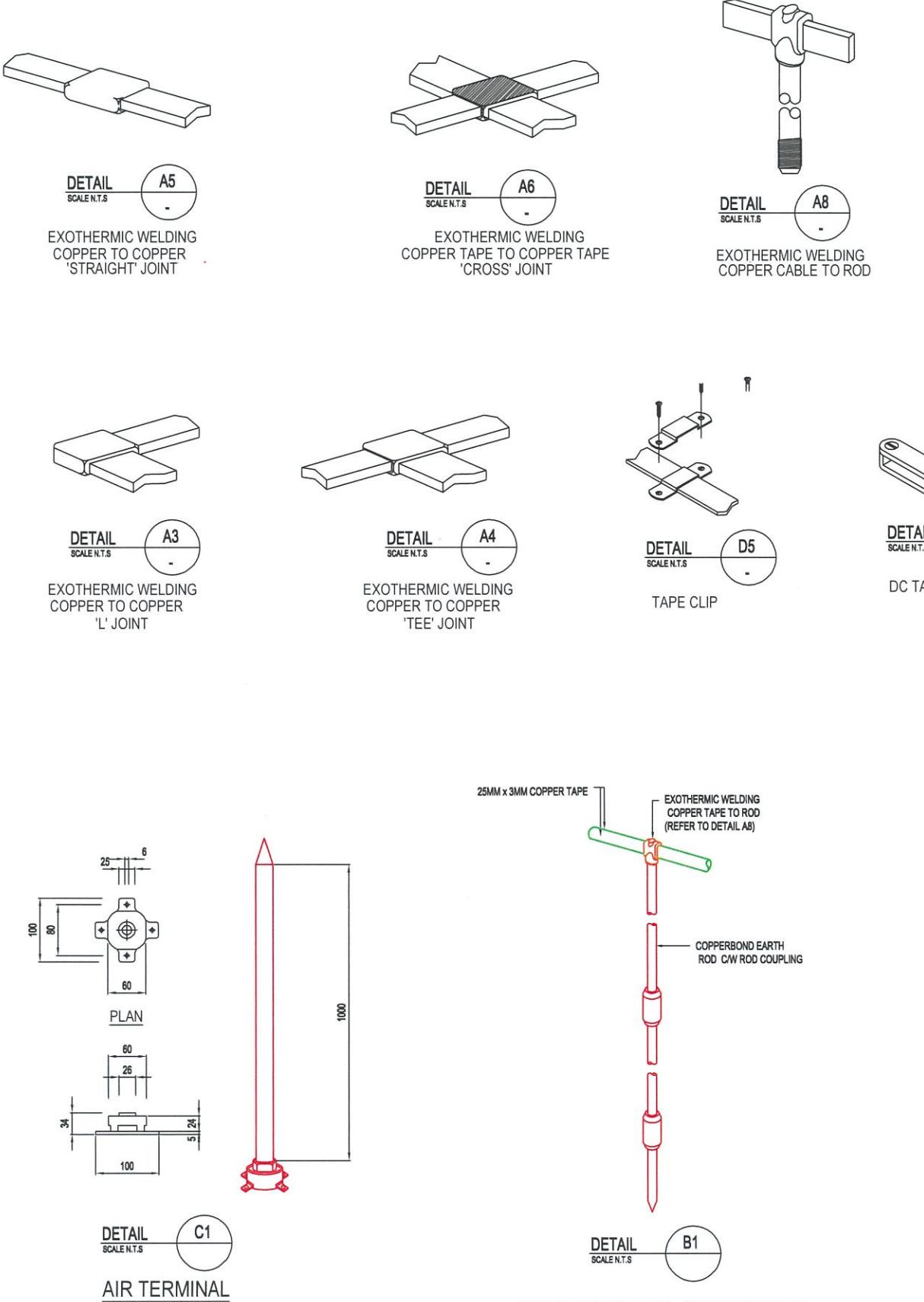
### TYPICAL INSTALLATION OF LIGHTNING PROTECTION

for Minconsult Sdn Bhd  
Lot 6, Jalan 51A/223  
46100 Petaling Jaya  
Tel: 03-79545757, 79525757  
Fax: 03-79547373, 79547575



### DETAIL OF EARTH CHAMBER

SCALE : N.T.S



TERMINATION OF 25MM X 3MM COPPER TAPE  
TO COPPERBOND EARTH ELECTRODE  
(TO BE INSTALLED BELOW FLOOR SLAB)