e-REW Express

December 2020

Welcome to our “e-REW Express”. The Government rolled out a $2 billion "EV-charging at Home Subsidy Scheme" ("EHSS") to subsidise the installation of EV charging-enabling infrastructure ("EVCEI") in car parks of existing private residential buildings, and hence further facilitate EV owners to install EV chargers at car parks of their residences according to their own needs in the future in a simple and easy manner. In this issue of “e-REW Express”, we will introduce the technical requirements for the installation of EVCEI.

We hope you will find the information of this e-REW Express useful. If you have any suggestion, please send an email to us at mail@hkelectric.com or contact our Customer Installation Department on 2887 3455 so that we can further improve our service.

Technical Requirements for EV Charging-enabling Infrastructure (EVCEI)

1. General Requirements

1.1 EVCEI are fixed electrical installations and must comply with HK Electric’s Supply Rules, the Electricity (Wiring) Regulations and other relevant Government ordinances and regulations.

1.2 EVCEI shall comply with the <<Technical Guidelines on Charging Facilities for Electric Vehicles>> and <<Technical Guidelines for Electric Vehicle (EV) Charging-enabling for Car Parks of New Building Developments>> published by the Electrical and Mechanical Services Department and Environment Bureau / Electrical and Mechanical Services Department respectively.

1.3 EVCEI shall be supplied and metered appropriately as per HK Electric’s requirements. The relevant metering requirements and interface requirements are shown in <<Guide to Connection of Supply>>.

1.4 The Tariff Meter Communication (TMC) Infrastructure provisions shall be made by customers during the design and construction stage. The proposed arrangements of facilities (as shown in Appendix 1) for TMC infrastructure provisions should be submitted to HK Electric for consideration during the design stage.

1.5 For EHSS, EVCEI shall also comply with the <<Design Guidelines for Electric Vehicle Charging-enabling Infrastructure under the EV-charging at Home Subsidy Scheme>> published by the Environmental Protection Department.

2. Metering Position

2.1 Supply to EVCEI should normally be derived from the electric supply equipment installed on the same floor level. HK Electric's meters for individual parking spaces shall be installed inside a communal meter room at each car park level.

2.2 If a meter room is not available, a group of meters may be installed inside a meter cubicle/ enclosure subject to the following conditions:

i) A meter cubicle/ enclosure shall be installed at a suitable location within the car park area with prior agreement from HK Electric. Typical arrangement of meter cubicle/ enclosure can be referred to Appendix 2.

ii) The following diagrams shall be posted at the front cover of the meter cubicle/ enclosure of the corresponding supply zone:

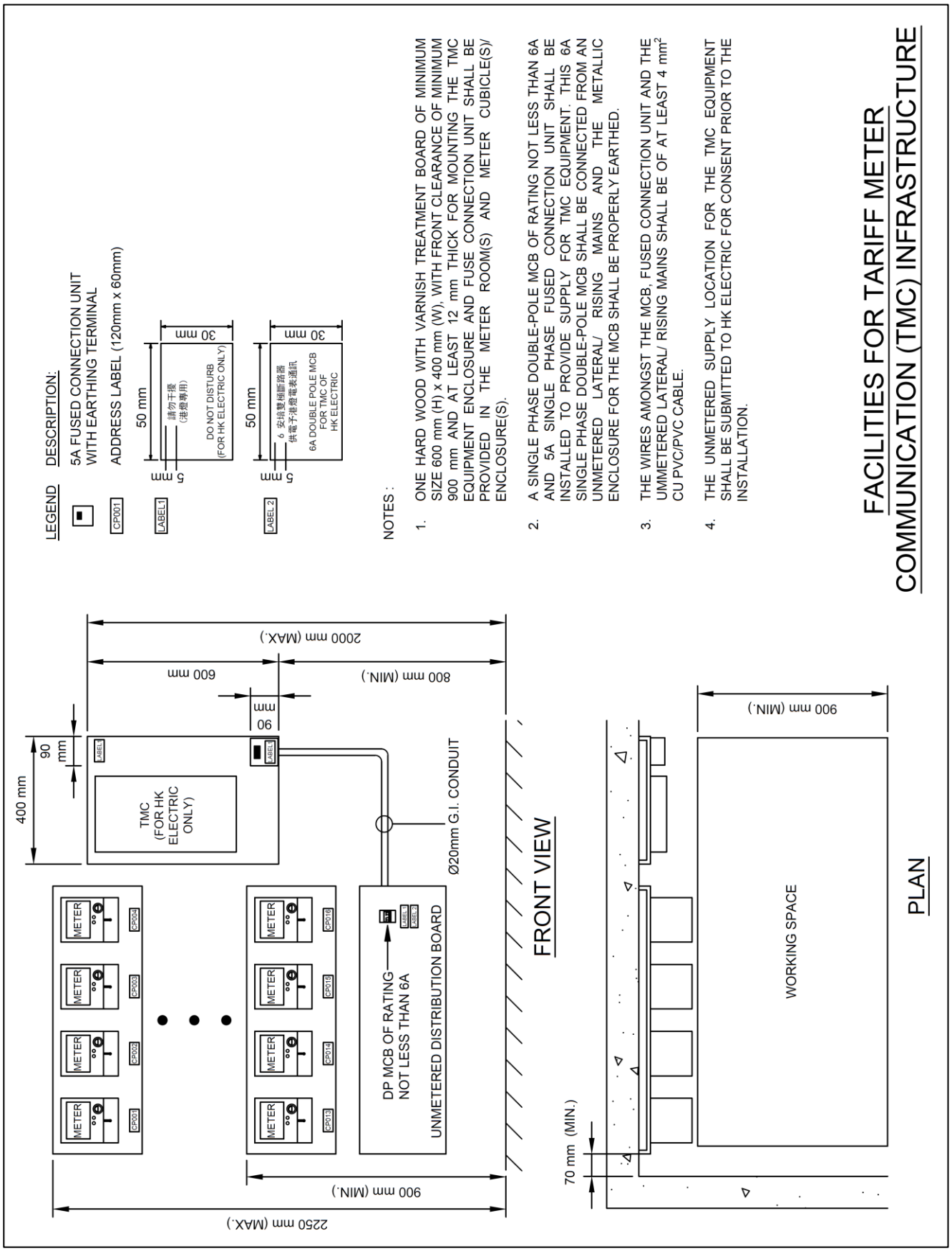
- Layout drawing showing the location and carpark number for each parking space with EV charging facilities
- LV schematic wiring diagram

Example of the above diagrams can be referred to Appendix 3.

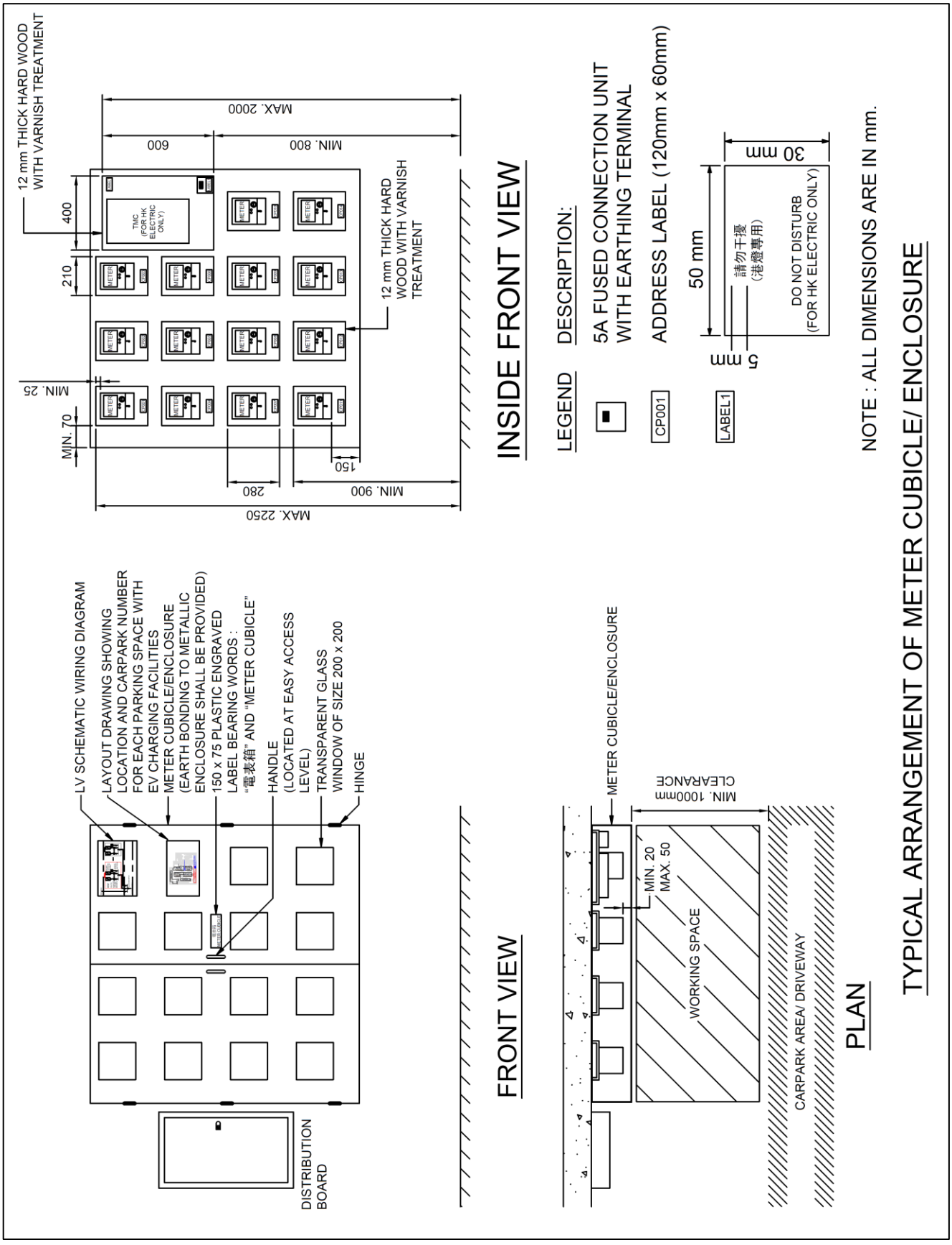
iii) Safety poles with yellow/black marking or tape shall be erected at least 1,000mm in front of the meter cubicle/ enclosure in order to provide clear delineation of working boundary. Safety poles shall be located in coordination with the meter cubicle/ enclosure, so it would allow easy access for working personnel. Details of the safety poles can be referred to Appendix 4.

We are pleased to provide our advisory service to Registered Electrical Contractor / Registered Electrical Worker (REC/REW) regarding the requirements of EV charging facilities. They are advised to provide us with the schematic wiring diagrams and carpark layout drawings for our consideration.

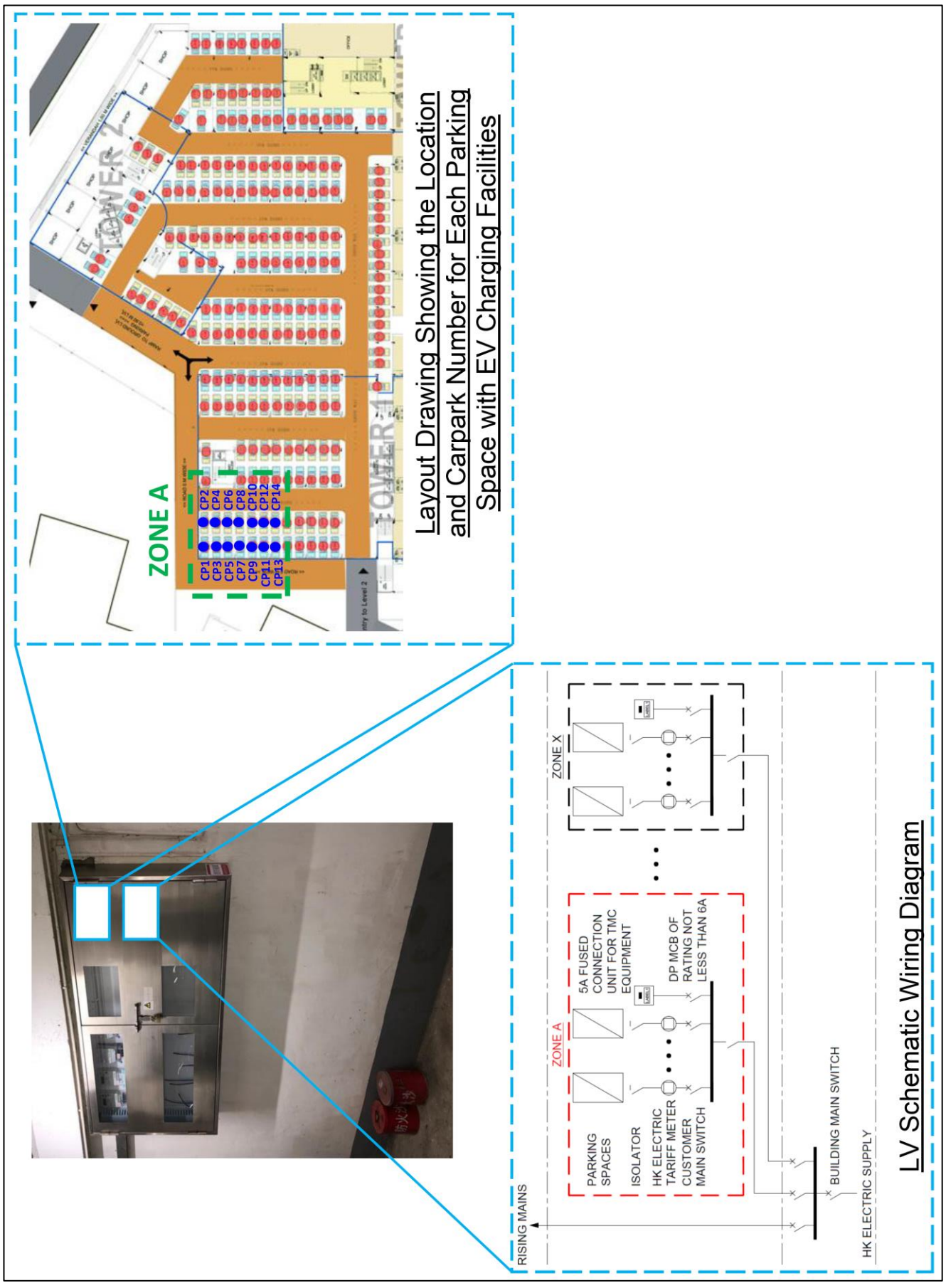
APPENDIX 1


FACILITIES FOR TARIFF METER
COMMUNICATION (TMC) INFRASTRUCTURE
LEGEND
DESCRIPTION:
5A FUSED CONNECTION UNIT WITH EARTHING TERMINAL
CP001
ADDRESS LABEL (120mm x 60mm)
LABEL1
50 mm
30 mm
5 mm
請勿干擾
(港燈專用)
DO NOT DISTURB
(FOR HK ELECTRIC ONLY)
LABEL 2
6 安培雙極斷路器
供電予港燈電表通訊
6A DOUBLE POLE MCB
FOR TMC OF
HK ELECTRIC
NOTES :
1. ONE HARD WOOD WITH VARNISH TREATMENT BOARD OF MINIMUM SIZE 600 mm (H) x 400 mm (W), WITH FRONT CLEARANCE OF MINIMUM 900 mm AND AT LEAST 12 mm THICK FOR MOUNTING THE TMC EQUIPMENT ENCLOSURE AND FUSE CONNECTION UNIT SHALL BE PROVIDED IN THE METER ROOM(S) AND METER CUBICLE(S)/ ENCLOSURE(S).
2. A SINGLE PHASE DOUBLE-POLE MCB OF RATING NOT LESS THAN 6A AND 5A SINGLE PHASE FUSED CONNECTION UNIT SHALL BE INSTALLED TO PROVIDE SUPPLY FOR TMC EQUIPMENT. THIS 6A SINGLE PHASE DOUBLE-POLE MCB SHALL BE CONNECTED FROM AN UNMETERED LATERAL/ RISING MAINS AND THE METALLIC ENCLOSURE FOR THE MCB SHALL BE PROPERLY EARTHED.
3. THE WIRES AMONGST THE MCB, FUSED CONNECTION UNIT AND THE UNMETERED LATERAL/ RISING MAINS SHALL BE OF AT LEAST 4 mm² CU PVC/PVC CABLE.
4. THE UNMETERED SUPPLY LOCATION FOR THE TMC EQUIPMENT SHALL BE SUBMITTED TO HK ELECTRIC FOR CONSENT PRIOR TO THE INSTALLATION.
FRONT VIEW
400 mm
90 mm
TMC
(FOR HK
ELECTRIC
ONLY)
LABEL
LABEL1
90 mm
600 mm
800 mm (MIN.)
2000 mm (MAX.)
Ø20mm G.I. CONDUIT
METER
CP001
CP002
CP003
CP004
CP013
CP014
CP015
CP016
DP MCB OF RATING
NOT LESS THAN 6A
UNMETERED DISTRIBUTION BOARD
900 mm (MIN.)
2250 mm (MAX.)
PLAN
900 mm (MIN.)
WORKING SPACE
70 mm (MIN.)

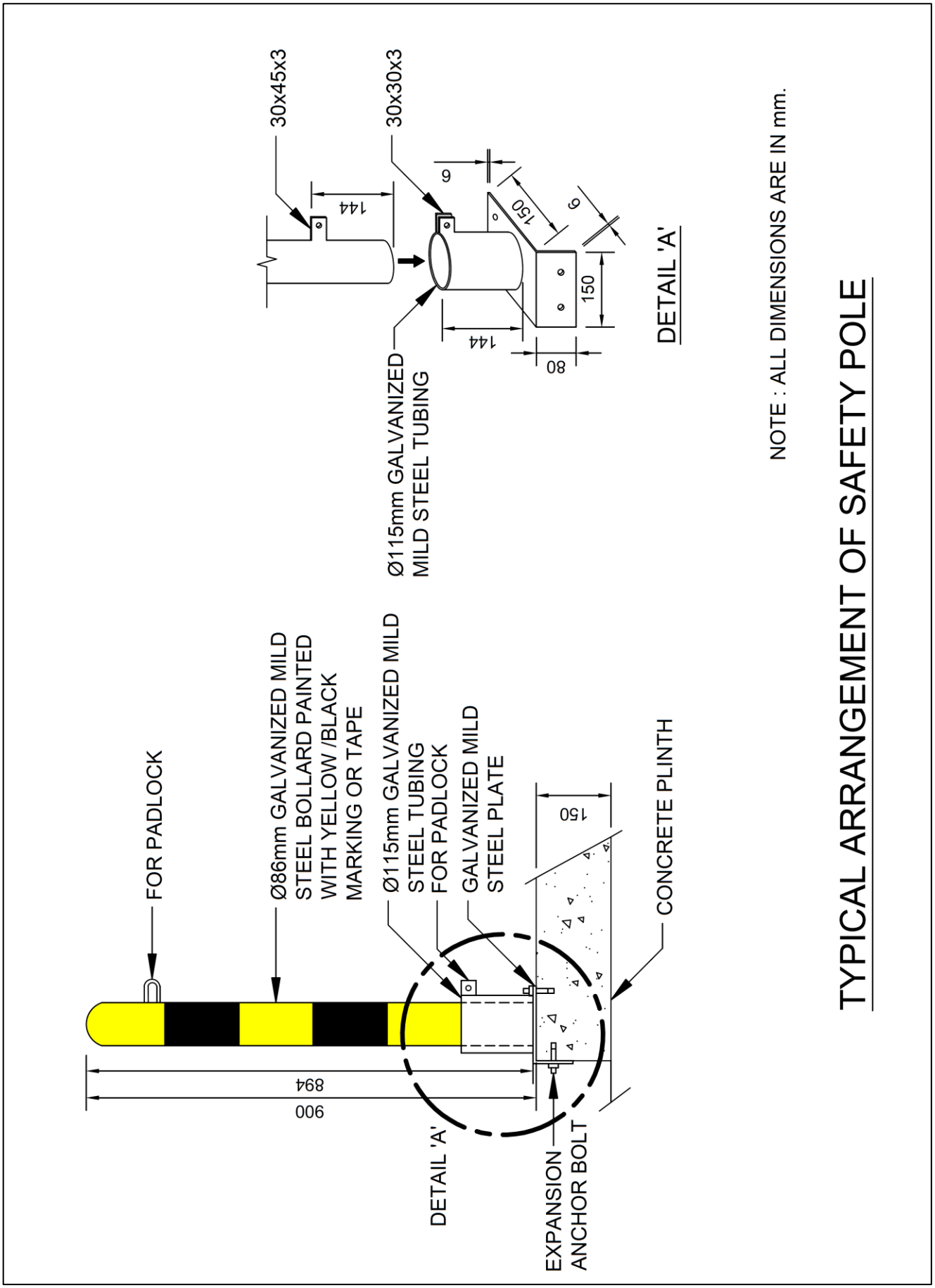
APPENDIX 2


TYPICAL ARRANGEMENT OF METER CUBICLE/ ENCLOSURE
NOTE : ALL DIMENSIONS ARE IN mm.
INSIDE FRONT VIEW
12 mm THICK HARD WOOD WITH VARNISH TREATMENT
12 mm THICK HARD WOOD WITH VARNISH TREATMENT
TMC (FOR HK ELECTRIC ONLY)
METER
MAX. 2250
MIN. 900
MAX. 2000
MIN. 800
600
280
150
400
210
MIN. 70
MIN. 25
LEGEND
DESCRIPTION:
5A FUSED CONNECTION UNIT WITH EARTHING TERMINAL
CP001
ADDRESS LABEL (120mm x 60mm)
LABEL1
50 mm
30 mm
5 mm
請勿干擾
(港燈專用)
DO NOT DISTURB
(FOR HK ELECTRIC ONLY)
FRONT VIEW
LV SCHEMATIC WIRING DIAGRAM
LAYOUT DRAWING SHOWING LOCATION AND CARPARK NUMBER FOR EACH PARKING SPACE WITH EV CHARGING FACILITIES
METER CUBICLE/ENCLOSURE (EARTH BONDING TO METALLIC ENCLOSURE SHALL BE PROVIDED)
150 x 75 PLASTIC ENGRAVED LABEL BEARING WORDS : "電表箱" AND "METER CUBICLE"
HANDLE (LOCATED AT EASY ACCESS LEVEL)
TRANSPARENT GLASS WINDOW OF SIZE 200 x 200
HINGE
DISTRIBUTION BOARD
METER CUBICLE/ENCLOSURE
MIN. 1000mm CLEARANCE
MIN. 20
MAX. 50
WORKING SPACE
CARPARK AREA/ DRIVEWAY
PLAN

APPENDIX 3


Layout Drawing Showing the Location and Carpark Number for Each Parking Space with EV Charging Facilities
TOWER 2
TOWER 1
ZONE A
CP1
CP2
CP3
CP4
CP5
CP6
CP7
CP8
CP9
CP10
CP11
CP12
CP13
CP14
LV Schematic Wiring Diagram
RISING MAINS
ZONE A
PARKING SPACES
ISOLATOR
HK ELECTRIC TARIFF METER
CUSTOMER MAIN SWITCH
5A FUSED CONNECTION UNIT FOR TMC EQUIPMENT
DP MCB OF RATING NOT LESS THAN 6A
ZONE X
BUILDING MAIN SWITCH
HK ELECTRIC SUPPLY

APPENDIX 4


TYPICAL ARRANGEMENT OF SAFETY POLE
NOTE : ALL DIMENSIONS ARE IN mm.
DETAIL 'A'
30x45x3
30x30x3
144
6
150
6
150
80
144
Ø115mm GALVANIZED
MILD STEEL TUBING
FOR PADLOCK
Ø86mm GALVANIZED MILD
STEEL BOLLARD PAINTED
WITH YELLOW /BLACK
MARKING OR TAPE
Ø115mm GALVANIZED MILD
STEEL TUBING
FOR PADLOCK
GALVANIZED MILD
STEEL PLATE
CONCRETE PLINTH
150
894
900
DETAIL 'A'
EXPANSION
ANCHOR BOLT