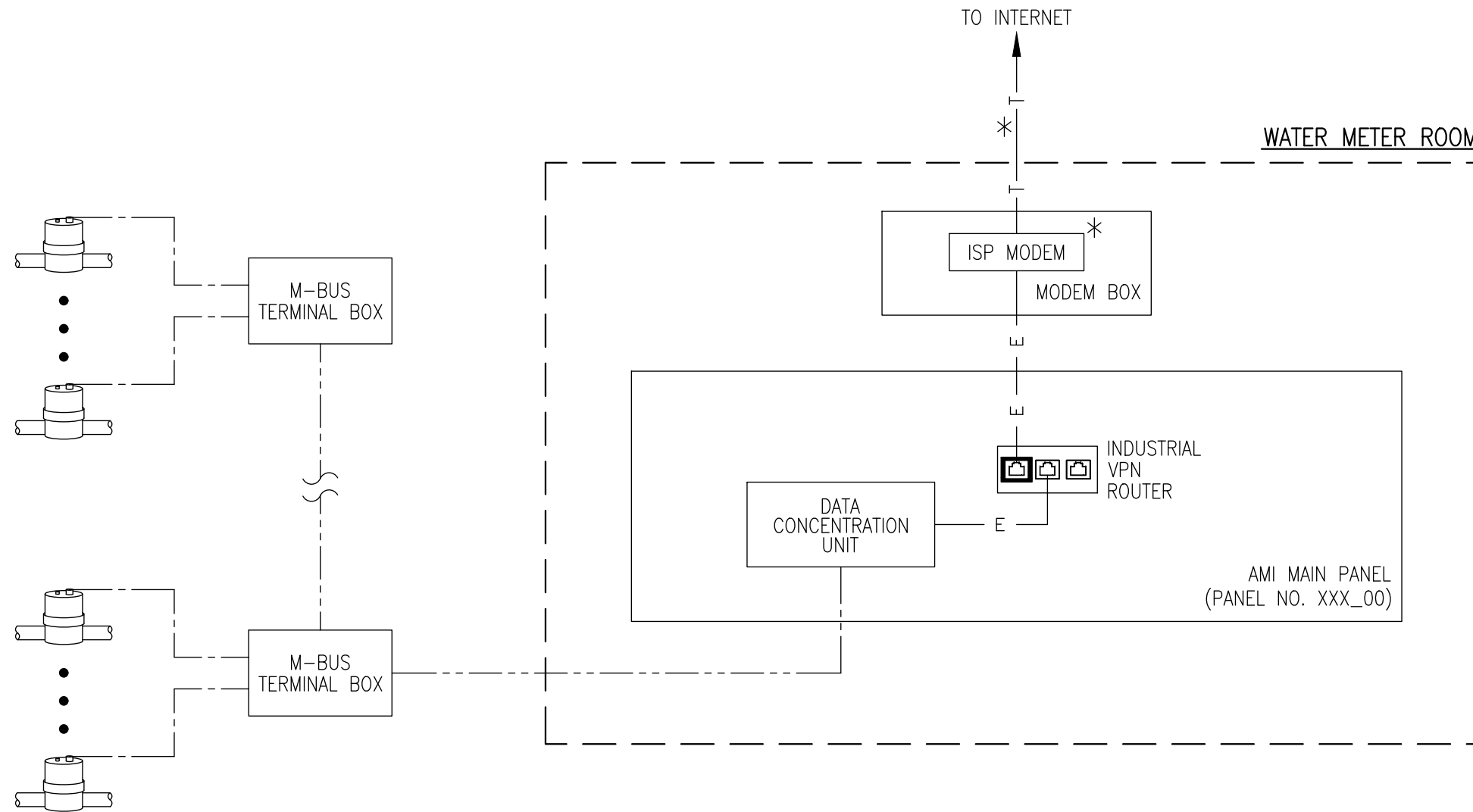


NOTES:

1. ONE SPARE LAN PORT SHALL BE PROVIDED AT THE INDUSTRIAL VPN ROUTER.
2. IF THE INDUSTRIAL VPN ROUTER DOES NOT HAVE ENOUGH LAN PORTS, SEPARATE ETHERNET SWITCH SHALL BE PROVIDED.
3. THIS DRAWING IS FOR DESIGN REFERENCE ONLY.



LEGEND	DESCRIPTION
	SMART WATER METER COMPLETE WITH SPUR CABLE (SUPPLIED BY WSD)
—E—E—	CAT 5e/6 ETHERNET CABLE
— — — —	M-BUS CABLE
—T—T—	COMMUNICATION LINK
	LAN PORT (RJ45)
	WAN PORT (RJ45)
AMI	ADVANCED METERING INFRASTRUCTURE
*	DENOTES EQUIPMENT TO BE SUPPLIED BY INTERNET SERVICE PROVIDER

編號 no.	日期 date	摘要 description	簽署 initial
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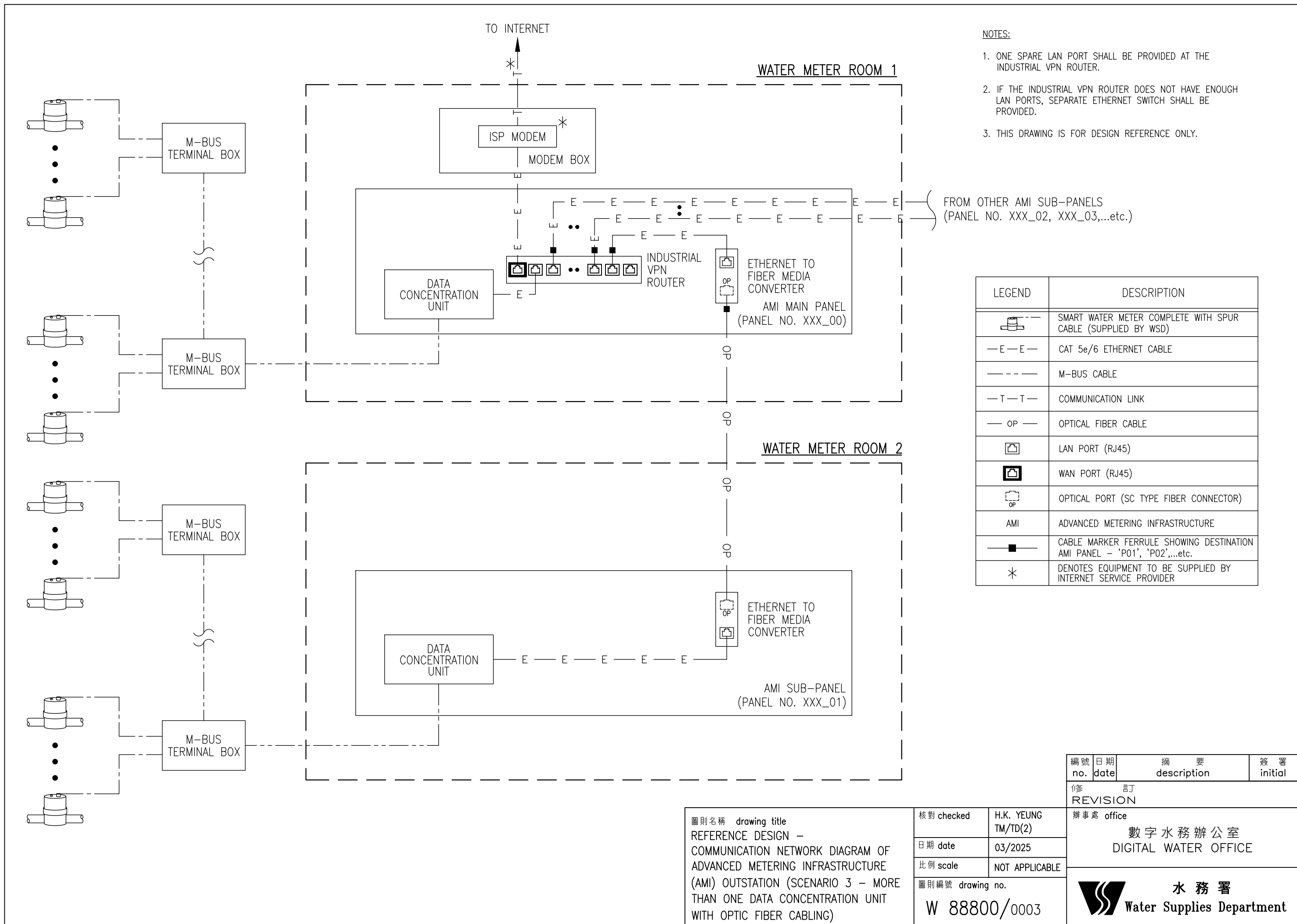
修訂 REVISION			
辦事處 office 數字水務辦公室 DIGITAL WATER OFFICE			

圖則名稱 drawing title
REFERENCE DESIGN –
COMMUNICATION NETWORK DIAGRAM OF
ADVANCED METERING INFRASTRUCTURE
(AMI) OUTSTATION (SCENARIO 1 – ONE
DATA CONCENTRATION UNIT ONLY)

核對 checked	H.K. YEUNG TM/TD(2)
日期 date	03/2025
比例 scale	NOT APPLICABLE

圖則編號 drawing no.
W 88800/0001

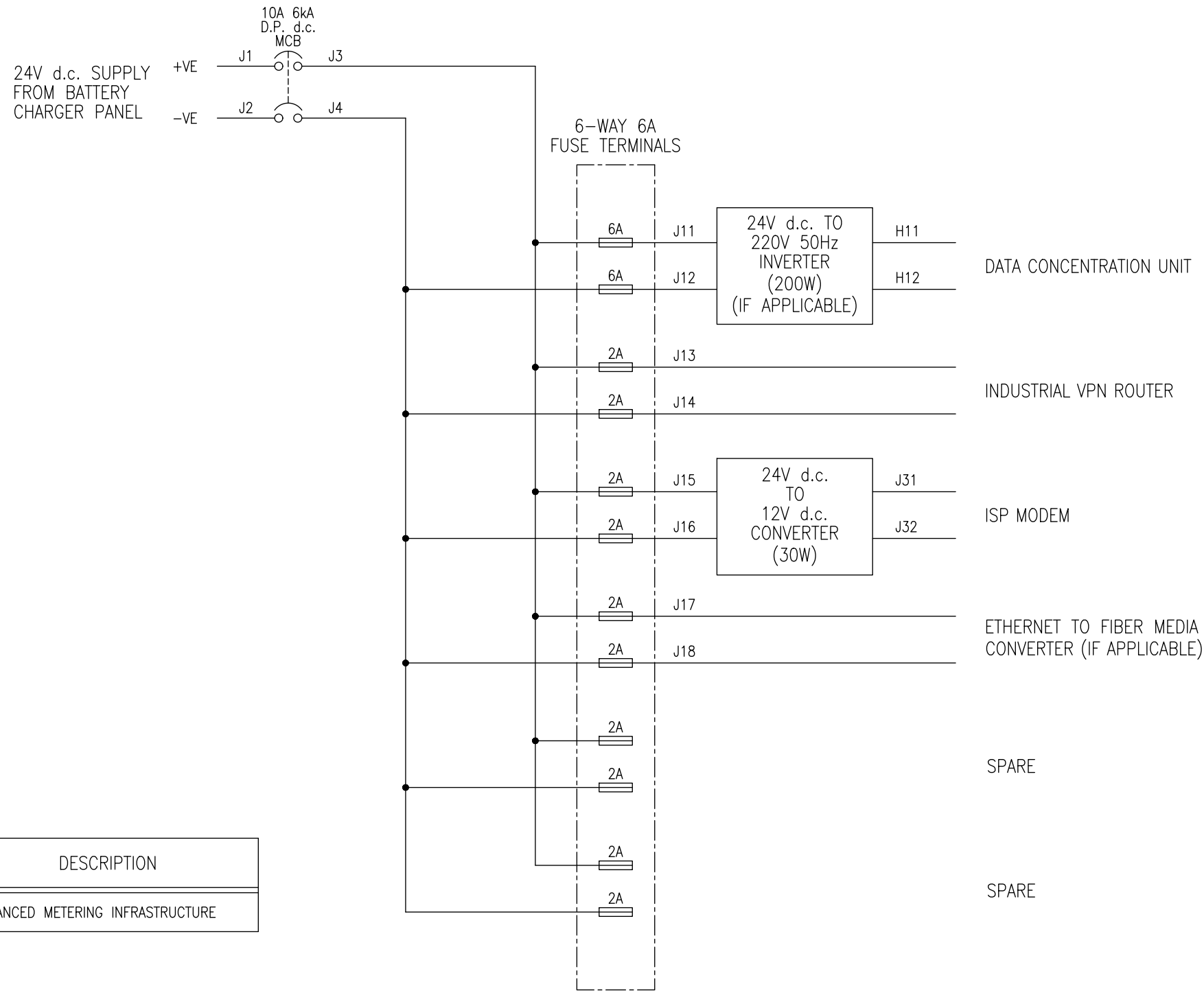
水務署
Water Supplies Department



- NOTES:
- ONE SPARE LAN PORT SHALL BE PROVIDED AT THE INDUSTRIAL VPN ROUTER.
 - IF THE INDUSTRIAL VPN ROUTER DOES NOT HAVE ENOUGH LAN PORTS, SEPARATE ETHERNET SWITCH SHALL BE PROVIDED.
 - THIS DRAWING IS FOR DESIGN REFERENCE ONLY.

編號 no.	日期 date	摘要 description	簽署 initial
修訂 REVISION			
		辦事處 office 數字水務辦公室 DIGITAL WATER OFFICE	
		水務署 Water Supplies Department	

圖則名稱 drawing title REFERENCE DESIGN - COMMUNICATION NETWORK DIAGRAM OF ADVANCED METERING INFRASTRUCTURE (AMI) OUTSTATION (SCENARIO 3 - MORE THAN ONE DATA CONCENTRATION UNIT WITH OPTIC FIBER CABLING)	核對 checked H.K. YEUNG TM/TD(2)	日期 date 03/2025
	比例 scale NOT APPLICABLE	
圖則編號 drawing no. W 88800/0003		

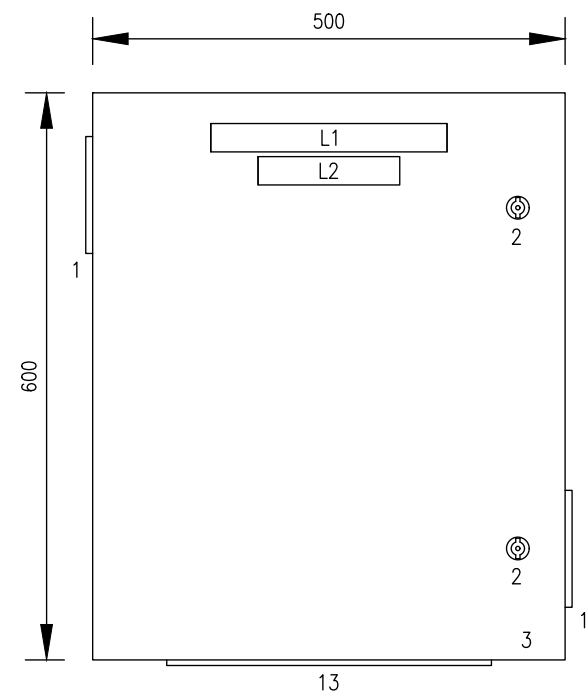


- NOTES:**
1. CABLES FOR SMALL WIRING SHALL BE SINGLE-CORE, PVC INSULATED TO BS 6231 WITH CIRCULAR ANNEALED COPPER STRANDED CONDUCTORS.
 2. NUMBERED INTERLOCKING FERRULES OF WHITE PVC WITH BLACK CHARACTERS SHALL BE SUPPLIED FOR CABLE CORE IDENTIFICATION.
 3. SMALL WIRING SHALL BE BLACK FOR a.c. AND GREY FOR d.c.
 4. AT LEAST ONE SPARE WAY OF 24V d.c. FUSED SUPPLY SHALL BE PROVIDED.
 5. IF THE INDUSTRIAL VPN ROUTER DOES NOT HAVE ENOUGH LAN PORTS, SEPARATE ETHERNET SWITCH SHALL BE PROVIDED.
 6. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NO. W88800/0005.
 7. THIS DRAWING IS FOR DESIGN REFERENCE ONLY.

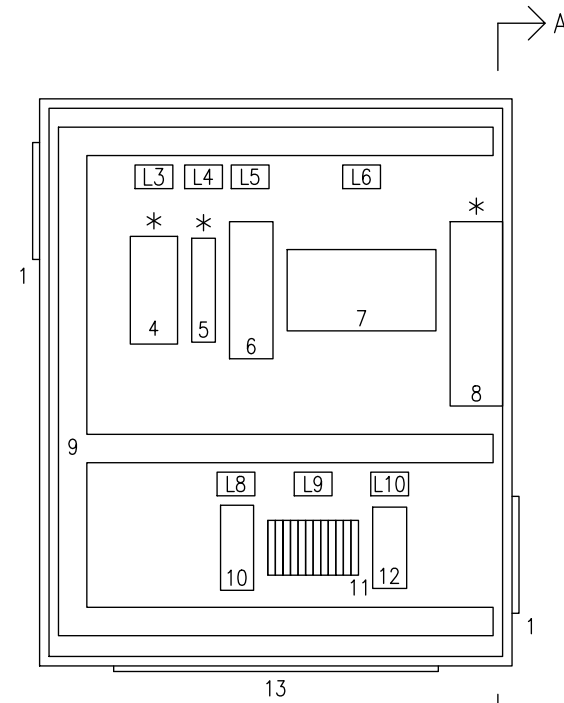
LEGEND	DESCRIPTION
AMI	ADVANCED METERING INFRASTRUCTURE

編號 no.	日期 date	摘要 description	簽署 initial
修訂 REVISION			
		辦事處 office	
		數字水務辦公室 DIGITAL WATER OFFICE	
		水務署 Water Supplies Department	

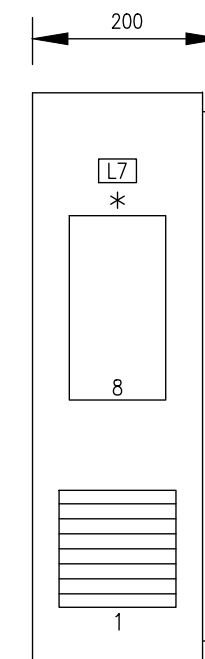
圖則名稱 drawing title REFERENCE DESIGN - POWER SUPPLY CIRCUIT DIAGRAM OF ADVANCED METERING INFRASTRUCTURE (AMI) MAIN PANEL	核對 checked	H.K. YEUNG TM/TD(2)
	日期 date	03/2025
	比例 scale	NOT APPLICABLE
	圖則編號 drawing no.	W 88800/0004



FRONT VIEW



INTERNAL LAYOUT



SECTION A-A

NOTES:

1. ALL DIMENSIONS ARE IN mm.
2. IF THE INDUSTRIAL VPN ROUTER DOES NOT HAVE ENOUGH LAN PORTS, SEPARATE ETHERNET SWITCH SHALL BE PROVIDED.
3. THE ENCLOSURE SHALL BE MADE OF STAINLESS STEEL 316, WITH A DEGREE OF PROTECTION TO IP 54.
4. * DENOTES EQUIPMENT TO BE SUPPLIED AND INSTALLED, IF APPLICABLE.
5. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NO. W88800/0004.
6. THIS DRAWING IS FOR DESIGN REFERENCE ONLY.

LABEL	INSCRIPTION	HEIGHT OF CHARACTER IN mm
L1	水務署智能水錶系統主箱 WATER SUPPLIES DEPARTMENT AMI MAIN PANEL	10
L2	箱編號 PANEL NO.: XXX_00	10
L3	ETHERNET SWITCH	3
L4	MEDIA CONVERTER	3
L5	INDUSTRIAL VPN ROUTER	3
L6	DATA CONCENTRATION UNIT	3
L7	POWER INVERTER	3
L8	POWER CONVERTER	3
L9	FUSE TERMINAL (24V d.c.)	3
L10	MCB	3

ITEM NO.	DESCRIPTION
1	LOUVRE
2	DOOR LOCK
3	ENCLOSURE
4	ETHERNET SWITCH
5	ETHERNET TO FIBER MEDIA CONVERTER
6	INDUSTRIAL VPN ROUTER
7	DATA CONCENTRATION UNIT
8	24V d.c. TO 220V 50Hz INVERTER
9	30 x 30mm (WxD) PVC CABLE TRUNKING
10	24V d.c. TO 12V d.c. CONVERTER
11	FUSE TERMINAL (24V d.c.)
12	MINIATURE CIRCUIT BREAKER
13	REMOVABLE GLAND PLATE

編號 no.	日期 date	摘要 description	簽署 initial
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修訂
REVISION

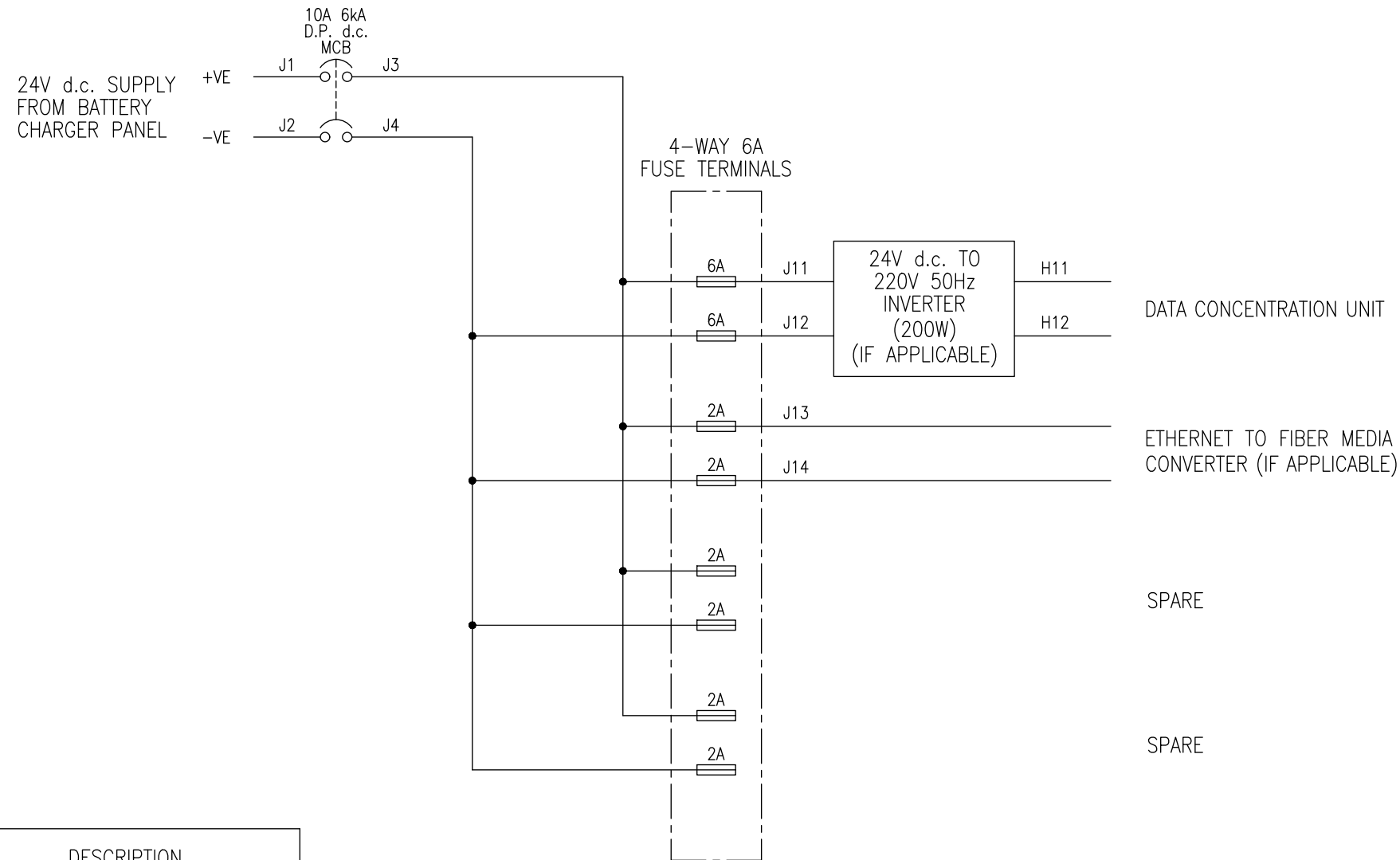
辦事處 office
數字水務辦公室
DIGITAL WATER OFFICE

圖則名稱 drawing title
REFERENCE DESIGN -
ARRANGEMENT OF ADVANCED METERING
INFRASTRUCTURE (AMI) MAIN PANEL

核對 checked H.K. YEUNG
TM/TD(2)
日期 date 03/2025
比例 scale N.T.S.

圖則編號 drawing no.
W 88800/0005

水務署
Water Supplies Department



NOTES:

1. CABLES FOR SMALL WIRING SHALL BE SINGLE-CORE, PVC INSULATED TO BS 6231 WITH CIRCULAR ANNEALED COPPER STRANDED CONDUCTORS.
2. NUMBERED INTERLOCKING FERRULES OF WHITE PVC WITH BLACK CHARACTERS SHALL BE SUPPLIED FOR CABLE CORE IDENTIFICATION.
3. SMALL WIRING SHALL BE BLACK FOR a.c. AND GREY FOR d.c.
4. AT LEAST ONE SPARE WAY OF 24V d.c. FUSED SUPPLY SHALL BE PROVIDED.
5. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NO. W88800/0007.
6. THIS DRAWING IS FOR DESIGN REFERENCE ONLY.

LEGEND	DESCRIPTION
AMI	ADVANCED METERING INFRASTRUCTURE

編號 no.	日期 date	摘要 description	簽署 initial
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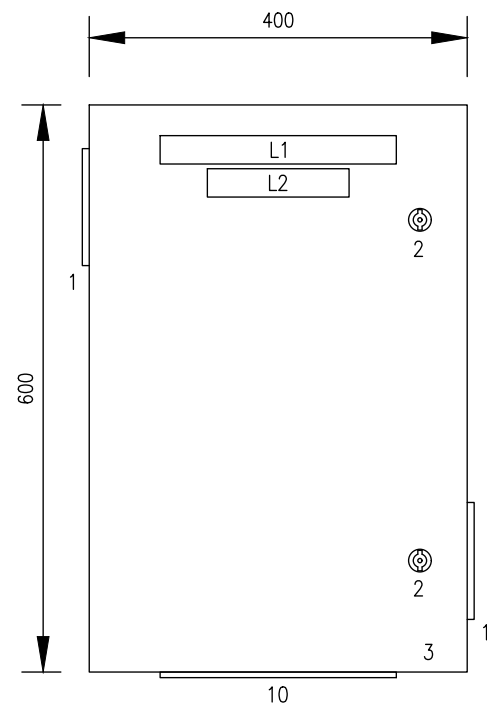
修訂 REVISION			
辦事處 office		數字水務辦公室 DIGITAL WATER OFFICE	

圖則名稱 drawing title
REFERENCE DESIGN -
POWER SUPPLY CIRCUIT DIAGRAM OF
ADVANCED METERING INFRASTRUCTURE
(AMI) SUB-PANEL

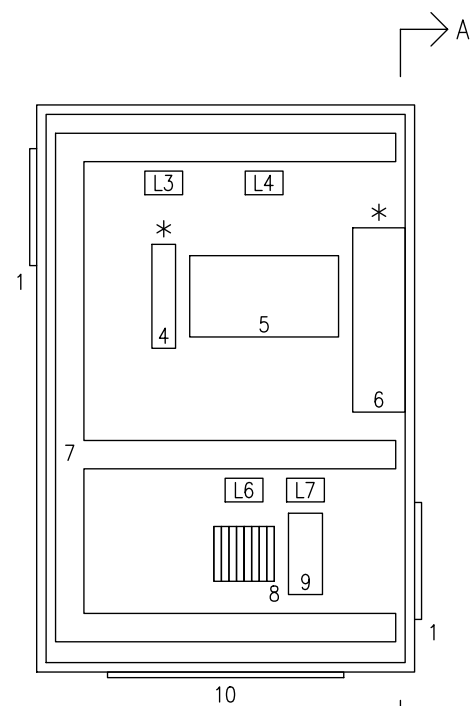
核對 checked	H.K. YEUNG TM/TD(2)
日期 date	03/2025
比例 scale	NOT APPLICABLE

圖則編號 drawing no.
W 88800/0006

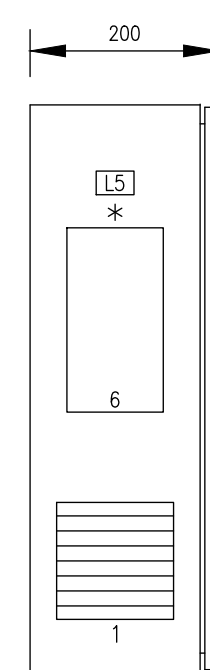




FRONT VIEW



INTERNAL LAYOUT



SECTION A-A

NOTES:

1. ALL DIMENSIONS ARE IN mm.
2. THE ENCLOSURE SHALL BE MADE OF STAINLESS STEEL 316, WITH A DEGREE OF PROTECTION TO IP 54.
3. * DENOTES EQUIPMENT TO BE SUPPLIED AND INSTALLED, IF APPLICABLE.
4. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DRAWING NO. W88800/0006.
5. THIS DRAWING IS FOR DESIGN REFERENCE ONLY.

LABEL	INSCRIPTION	HEIGHT OF CHARACTER IN mm
L1	水務署智能水錶系統副箱 WATER SUPPLIES DEPARTMENT AMI SUB-PANEL	10
L2	箱編號 PANEL NO.: XXX_01	10
L3	MEDIA CONVERTER	3
L4	DATA CONCENTRATION UNIT	3
L5	POWER INVERTER	3
L6	FUSE TERMINAL (24V d.c.)	3
L7	MCB	3

ITEM NO.	DESCRIPTION
1	LOUVRE
2	DOOR LOCK
3	ENCLOSURE
4	ETHERNET TO FIBER MEDIA CONVERTER
5	DATA CONCENTRATION UNIT
6	24V d.c. TO 220V 50Hz INVERTER
7	30 x 30mm (WxD) PVC CABLE TRUNKING
8	FUSE TERMINAL (24V d.c.)
9	MINIATURE CIRCUIT BREAKER
10	REMOVABLE GLAND PLATE

編號 no.	日期 date	摘要 description	簽署 initial
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修訂
REVISION

辦事處 office

數字水務辦公室
DIGITAL WATER OFFICE

圖則名稱 drawing title
REFERENCE DESIGN -
ARRANGEMENT OF ADVANCED METERING
INFRASTRUCTURE (AMI) SUB-PANEL

核對 checked H.K. YEUNG
TM/TD(2)

日期 date 03/2025

比例 scale N.T.S.

圖則編號 drawing no.
W 88800/0007

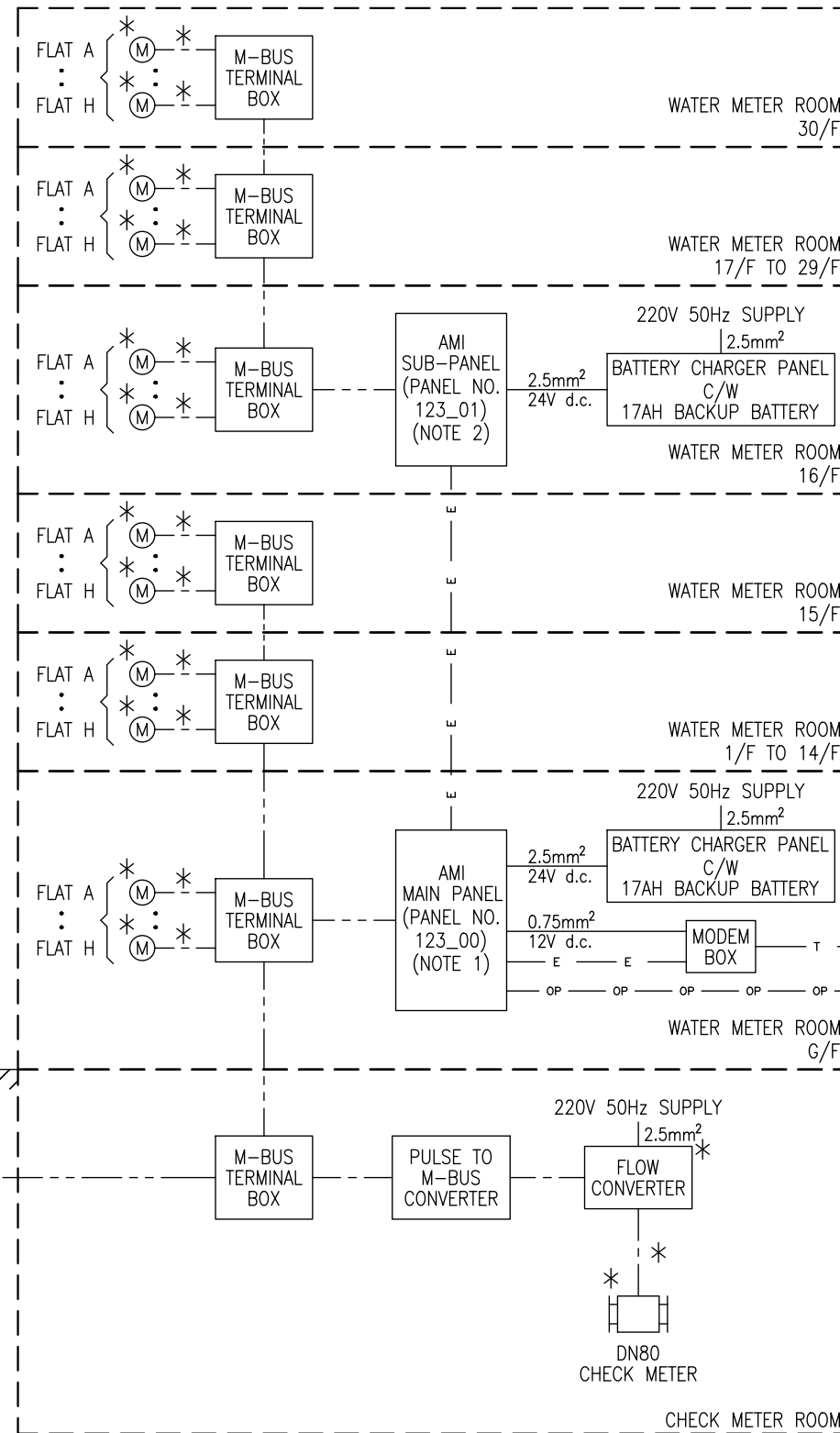
水務署
Water Supplies Department

AMI OUTSTATION AT WATERLOO GARDEN (PROJECT NO. 123)

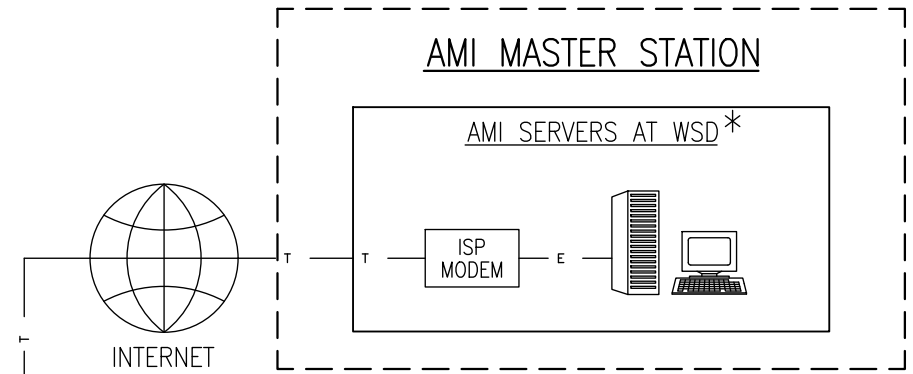
LEGEND	DESCRIPTION
(M)	MECHANICAL TYPE SMART WATER METER (DN15, UNLESS OTHERWISE SPECIFIED)
[Symbol]	ELECTRO-MAGNETIC TYPE SMART WATER METER
---	M-BUS CABLE IN CONDUIT (1.5mm ² COPPER, 4-CORE)
—E—	CAT 5e/6 ETHERNET CABLE IN CONDUIT (24 AWG COPPER)
—OP—	OPTICAL FIBER CABLE IN CONDUIT
<u>2.5mm²</u>	POWER CABLE IN CONDUIT (2.5mm ² COPPER)
---	PVC SHEATHED SIGNAL CABLE
—T—	COMMUNICATION LINK (BY INTERNET SERVICE PROVIDER)
*	DENOTES EQUIPMENT TO BE SUPPLIED BY WSD

SUMMARY OF INSTALLATION				
AMI PANEL NO.	NO. OF SMART METERS CONNECTED			
	DN15	DN25	DN80	DN150
123_00	128	—	1	2
123_01	120	—	—	—
123_02	72	4	1	—
TOTAL	320	4	2	2

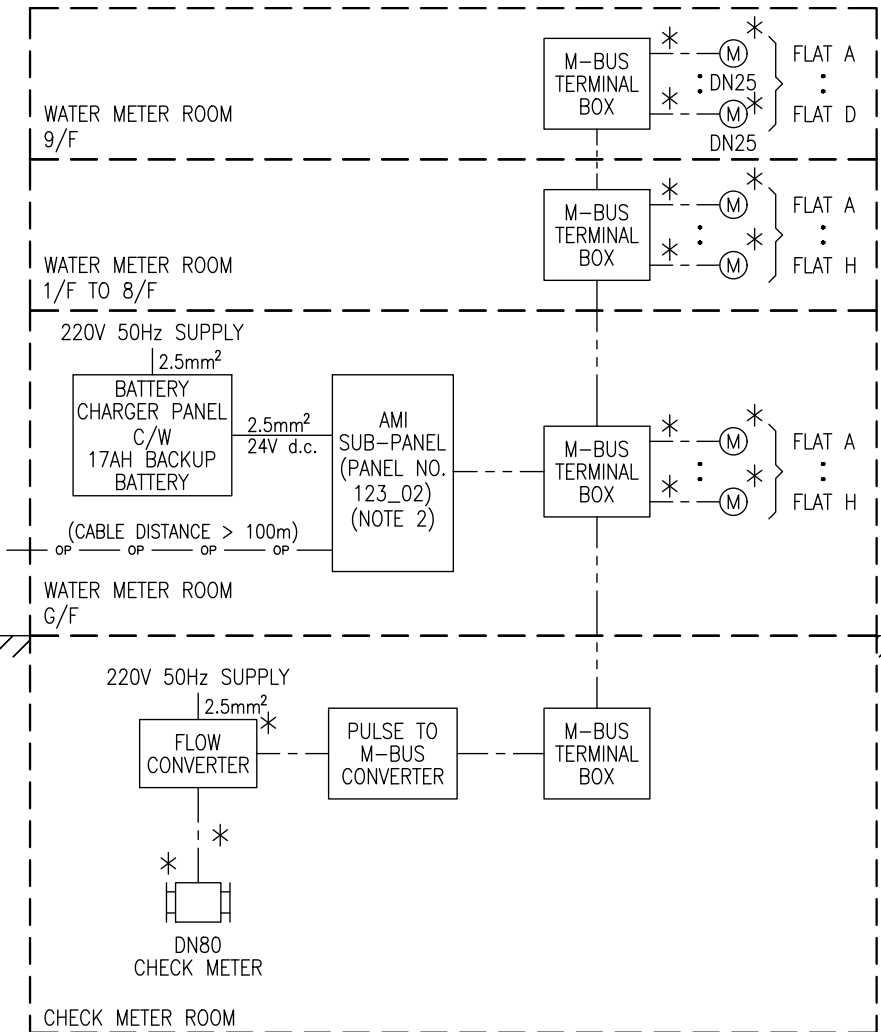
BLOCK 1



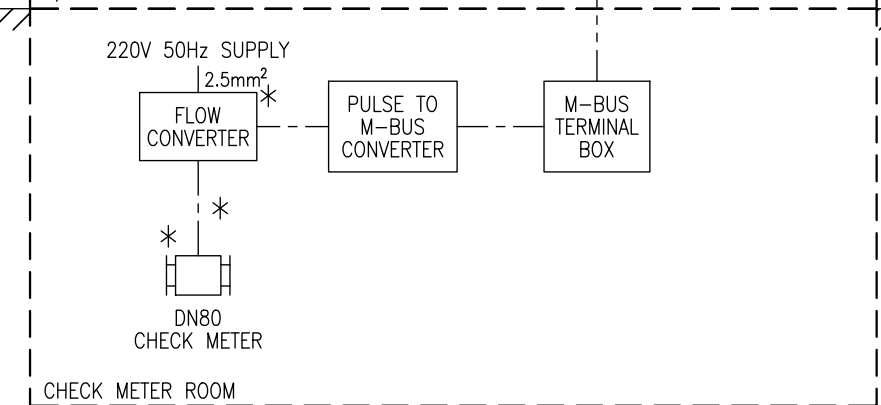
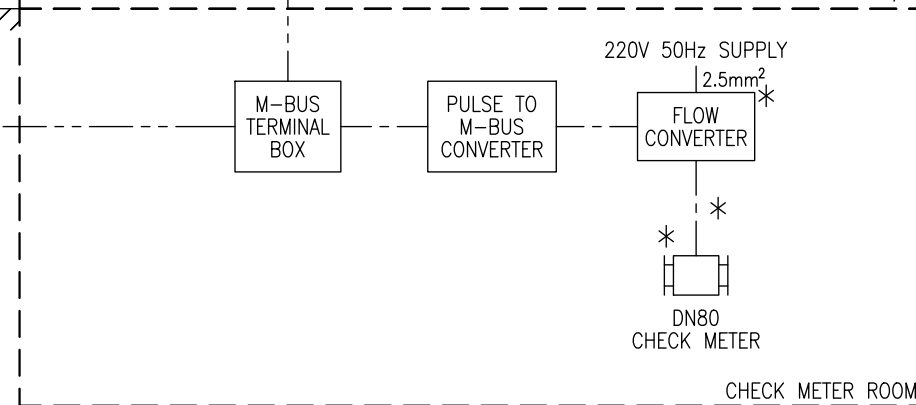
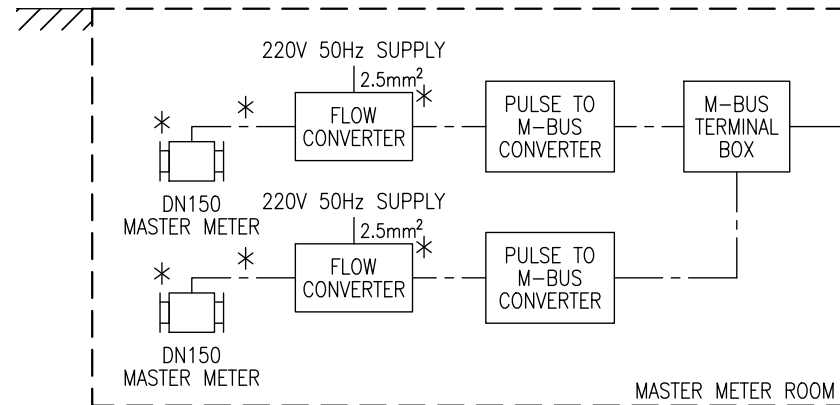
AMI MASTER STATION



BLOCK 2



PLAYGROUND



NOTES:

1. THE AMI MAIN PANEL SHALL BE LOCATED AT THE WATER METER ROOM AT GROUND FLOOR, OR NEAR GROUND FLOOR AS AGREED WITH WSD.
2. ADDITIONAL AMI SUB-PANELS SHALL BE PROVIDED, IF NECESSARY, TO ENSURE 10% SPARE CAPACITY IS AVAILABLE IN EACH DATA CONCENTRATION UNIT (DCU) AND MAXIMUM M-BUS CABLE DISTANCE BETWEEN DATA CONCENTRATION UNIT (DCU) AND SMART WATER METER IS 350m.
3. ALL M-BUS CONNECTION SHALL COMPLY WITH EN13757-3. THE APPLICATION LAYER FOR DATA COMMUNICATION SHALL COMPLY WITH EN1434-3.
4. THE MAXIMUM CAT 5e/6 NETWORK CABLE DISTANCE BETWEEN AMI MAIN PANEL AND AMI SUB-PANEL IS 100m.
5. PULSE TO M-BUS CONVERTER SHALL BE BUS-POWERED AND COMPLETE WITH BACKUP BATTERY.
6. THIS DRAWING IS FOR DESIGN REFERENCE ONLY.

編號 no.	日期 date	摘要 description	簽署 initial
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修訂
REVISION

辦事處 office

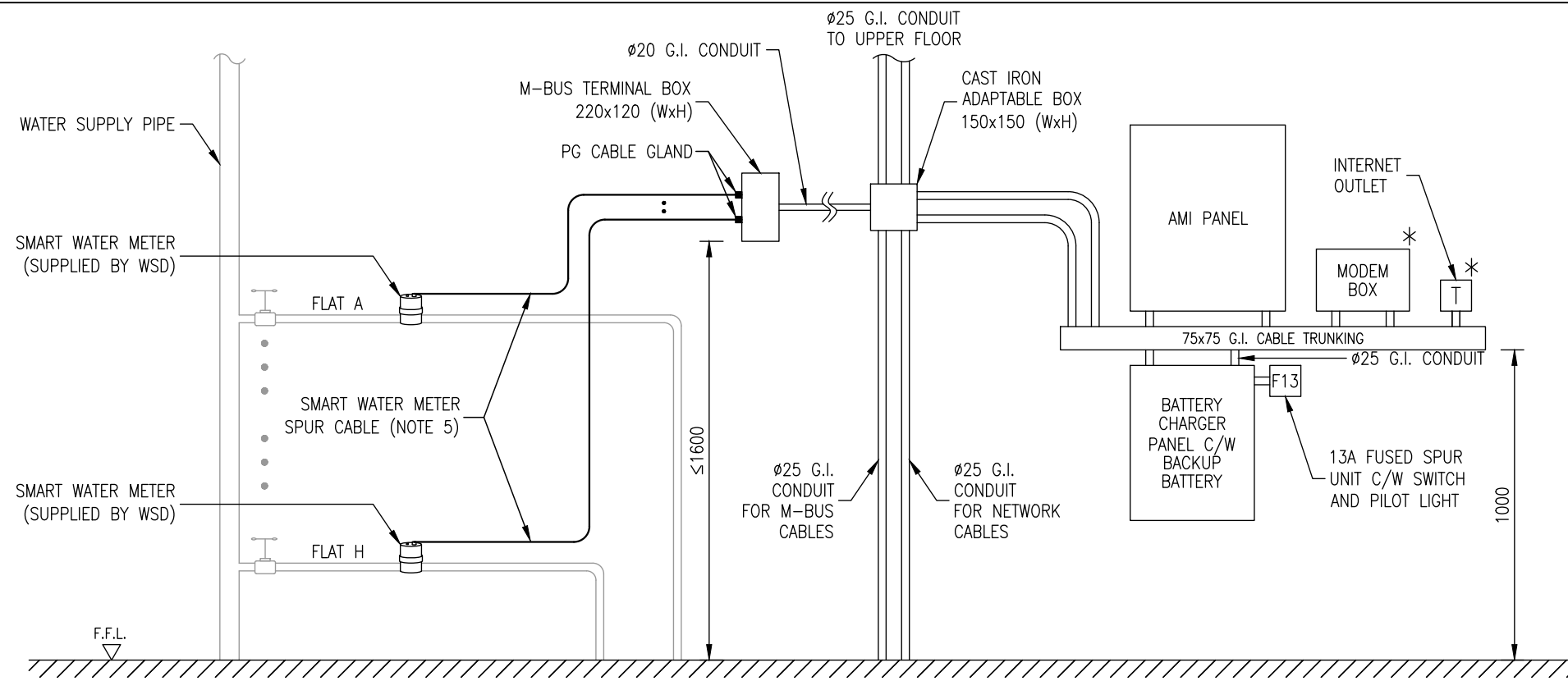
數字水務辦公室
DIGITAL WATER OFFICE

水務署
Water Supplies Department

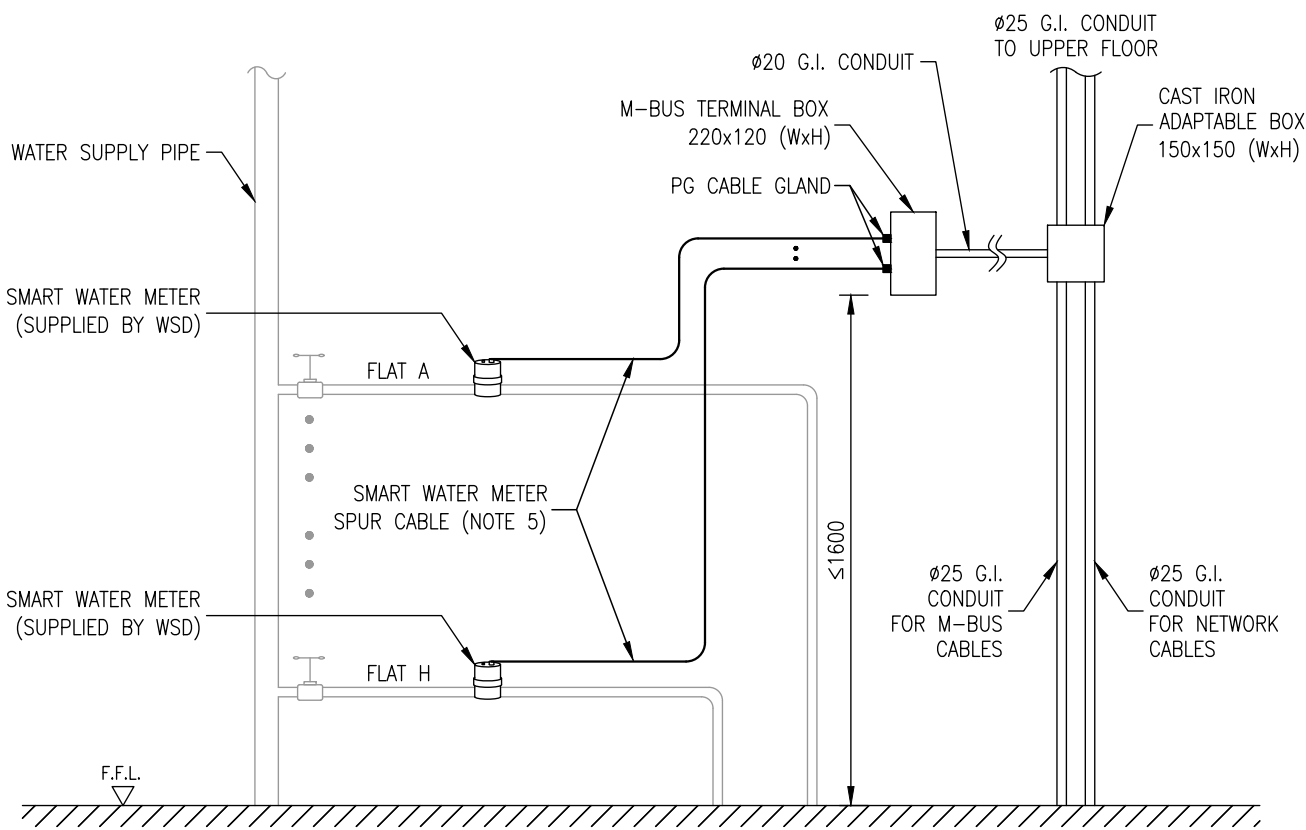
圖則名稱 drawing title
REFERENCE DESIGN -
SCHEMATIC DIAGRAM OF ADVANCED
METERING INFRASTRUCTURE (AMI)
OUTSTATION FOR PREMISES WITH
MULTI-STOREY BUILDINGS

核對 checked	H.K. YEUNG TM/TD(2)
日期 date	03/2025
比例 scale	NOT APPLICABLE

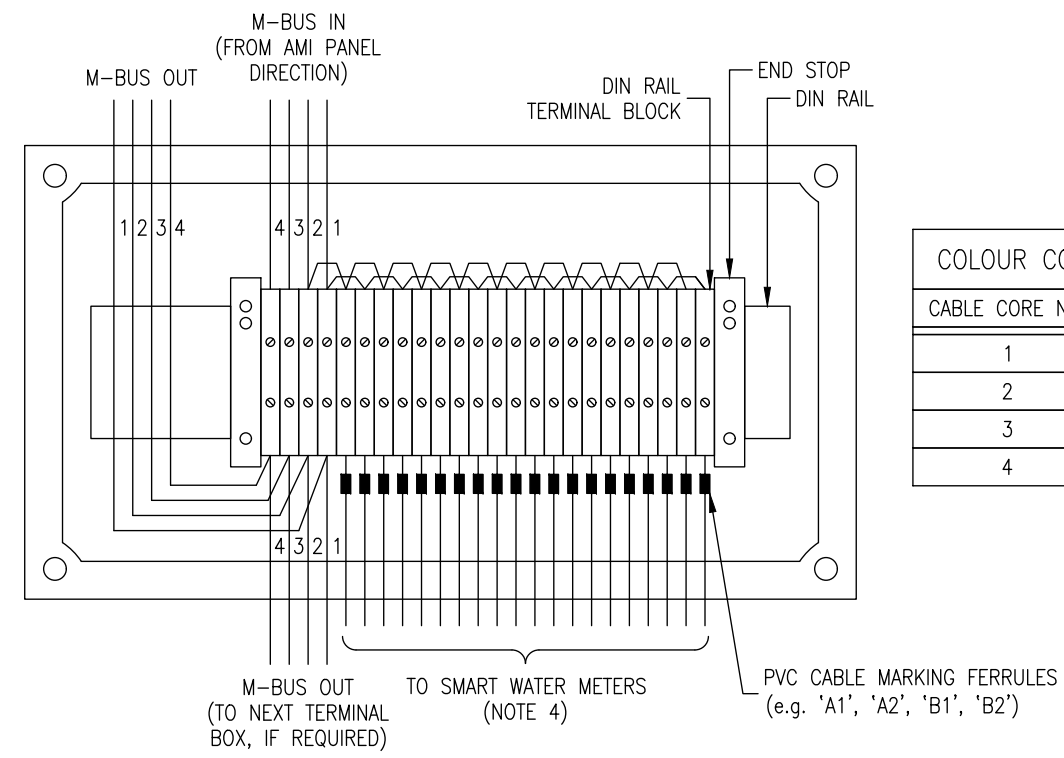
圖則編號 drawing no.
W 88800/0008



WATER METER ROOM (WITH AMI PANEL)
(NOT TO SCALE)



WATER METER ROOM (WITHOUT AMI PANEL)
(NOT TO SCALE)



CABLE TERMINATION OF M-BUS TERMINAL BOX
(NOT TO SCALE)

- NOTES:**
1. ALL DIMENSIONS ARE IN mm.
 2. THE MAXIMUM DISTANCE BETWEEN THE M-BUS TERMINAL BOX TO ANY SMART WATER METER IS 1.5m.
 3. THE INSTALLATION LOCATION OF THE AMI PANEL, BATTERY CHARGER PANEL AND ANY OTHER AUXILIARY EQUIPMENT SHALL BE EASY TO REACH AND FACILITATE SAFE OPERATION AND MAINTENANCE. THE AMI PANEL AND AUXILIARY EQUIPMENT SHALL NOT BE INSTALLED UNDER ANY PIPEWORK.
 4. THE MAXIMUM SMART WATER METERS TO BE CONNECTED AT A M-BUS TERMINAL BOX SHALL BE 10. ADDITIONAL M-BUS TERMINAL BOXES SHALL BE PROVIDED AS NECESSARY.
 5. SMART WATER METER SPUR CABLE SHALL BE COILED UP (IF TOO LONG) AND TIED TO WATER PIPE USING HEAVY DUTY CABLE TIE.
 6. M-BUS TERMINAL BOX FOR CABLE TERMINATION SHALL BE OF CAST ALUMINUM, RATED IP 54 TO IEC 60529 WITH DIMENSIONS OF 220mm x 120mm (WxH).
 7. * DENOTES EQUIPMENT FOR SCENARIO CONNECTED TO AMI MAIN PANEL ONLY.
 8. THIS DRAWING IS FOR DESIGN REFERENCE ONLY.

COLOUR CODE FOR M-BUS CABLE	
CABLE CORE NO.	COLOUR
1	BLUE
2	GREY (OR BROWN)
3	BLACK
4	GREEN/YELLOW

編號 no.	日期 date	摘要 description	簽署 initial
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REVISION			
修訂			
辦事處 office			
數字水務辦公室 DIGITAL WATER OFFICE			

圖則名稱 drawing title
REFERENCE DESIGN –
ELECTRICAL SERVICE INSTALLATION FOR
ADVANCED METERING INFRASTRUCTURE
(AMI) OUTSTATION

核對 checked	H.K. YEUNG TM/TD(2)
日期 date	03/2025
比例 scale	N.T.S.

圖則編號 drawing no.
W 88800/0009

