

POWER

- MAIN SITE SWITCHBOARD
- DISTRIBUTION BOARD
- SERVICES PANEL (BY OTHER TRADES)
- EXISTING DISTRIBUTION BOARD
- EXISTING MAIN SWITCHBOARD
- SINGLE GENERAL PURPOSE OUTLET (NON-ESSENTIAL). n = DENOTES CIRCUIT NUMBER. 10A UNLESS OTHERWISE INDICATED
- DOUBLE GPO. 10A UNLESS OTHERWISE NOTED.
- ELECTRICAL SERVICE PIT

LIGHTING

TYPICAL FOR ALL LUMINAIRES 'n' DENOTES LUMINAIRE TYPE. REFER TO PROJECT LUMINAIRE SCHEDULE FOR DETAILS

- EMERGENCY LUMINAIRE.
- EXIT LUMINAIRE WITH PICTOGRAMS INDICATING ESCAPE DIRECTION AS SHOWN ON PLAN ARROWS. DENOTE ESCAPE DIRECTION AND SINGLE OR DOUBLE SIDED
- DOWNLIGHT
- RECESSED DOWNLIGHT
- SURFACE MOUNTED LED LUMINAIRE (600mm)
- SURFACE MOUNTED LED LUMINAIRE (1200mm)
- LED LINEAR LUMINAIRE

SWITCHING

- SINGLE SWITCH AND SWITCH WIRE. n = DENOTES LIGHTING CIRCUIT NUMBER
- 240V PIR OCCUPANCY SENSOR
- PHOTOELECTRIC (PE) CELL LOCATION
- SWITCH WIRE
- DENOTES SWITCHING CONNECTION (SAME CIRCUIT)
- DENOTES SWITCHING CROSSOVER.
- LIGHT SWITCH C/W LOCAL DIMMING CONTROL
- 2-WAY LIGHT SWITCH
- 2-WAY LIGHT SWITCH C/W LOCAL DIMMING CONTROL

SECURITY

- SECURITY CONTROL EQUIPMENT
- SECURITY ALARM BELL
- PASSIVE INFRARED DETECTOR
- SECURITY STROBE SIREN
- REED SWITCH
- SECURITY SMOKE DETECTOR

COMMUNICATIONS

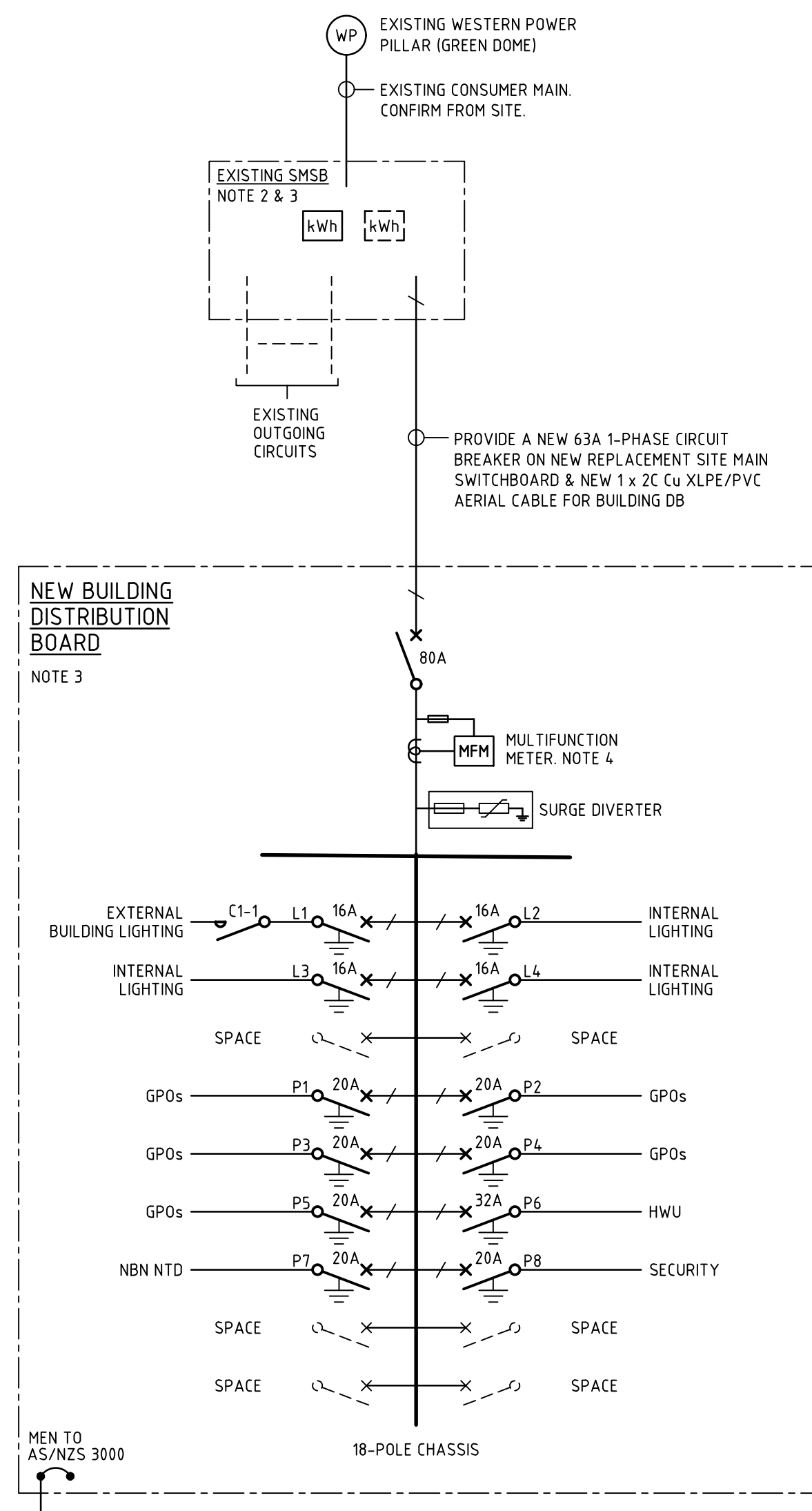
- SINGLE RJ45 COMMUNICATIONS/DATA OUTLET
- DOUBLE RJ45 COMMUNICATIONS/DATA OUTLET
- COMMUNICATIONS SERVICE PIT
- NETWORK TERMINATION DEVICE

CABLE SYSTEMS

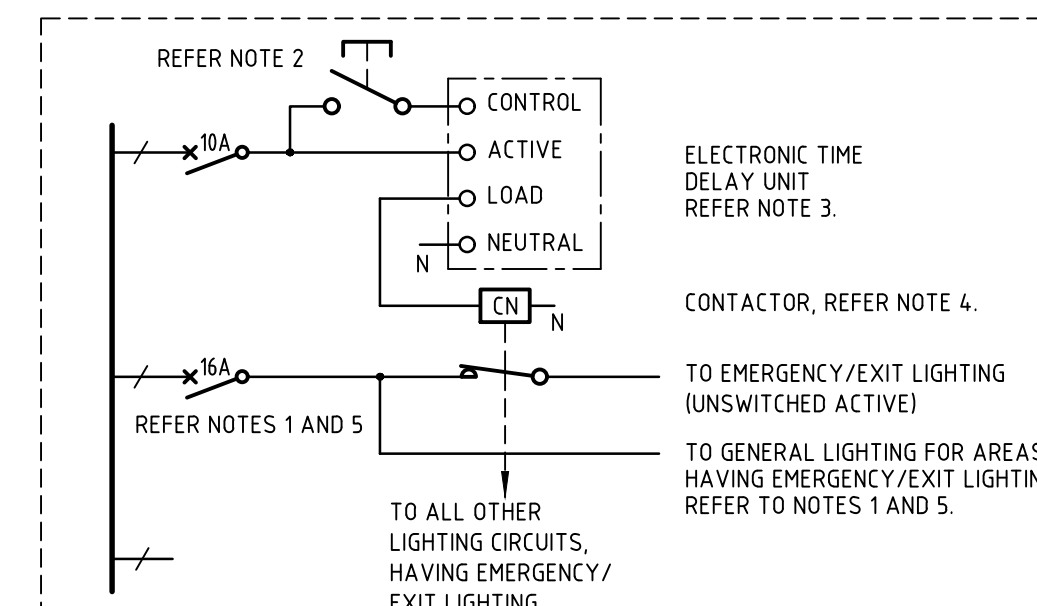
- IN-GROUND CONDUITS
- DENOTES SIZE
- DENOTES SERVICE TYPE: P - POWER, C - COMMUNICATIONS
- DENOTES No. OF
- EXISTING CONDUIT
- EXISTING TO BE REMOVED

LUMINAIRE SCHEDULE			
TYPE	DESCRIPTION	MANUFACTURER	CAT No.
A	20W 2400LM 3000K SURFACE MOUNTED IP54 IK10 LED BATTEN LUMINAIRE C/W POLYCARBONATE VANDAL RESISTANT OPAL DIFFUSER.	PIELITE "VANDALED SC"	VELED20ECS
B	38W 4360LM 3000K SUSPENDED LINEAR LED LUMINAIRE C/W OPAL DIFFUSER, INTEGRAL DRIVER AND STAINLESS STEEL WIRE SUSPENSIONS.	LEDS C4 "INFINITE PRO"	PROI-10801
C	11W 115LM 3000K 60° RECESSED LED DOWNLIGHT C/W SOFTENING LENS AND REMOTE DRIVER. COLOUR WHITE.	UNIOS LIGHTING "10N R"	IONR0089.WW4.0.MS-PP030001
D	22W 2334LM 3000K 50° RECESSED LED DOWNLIGHT C/W SOFTENING LENS AND REMOTE DRIVER. COLOUR WHITE.	UNIOS LIGHTING "10N R"	IONR0180.WW4.0.MS-PP060001
F	8W 3000K 17" SURFACE MOUNTED LED DOWNLIGHT, RATED IP66 C/W INTEGRAL CONTROL GEAR. FINISH TO BE CONFIRMED.	LEDS C4 "MAX MEDIUM SINGLE EMISSION"	A19-PTW9520S25
EM1	RECESSED LED EMERGENCY LUMINAIRE C/W BATTERY BACK-UP	CLEVERTRONICS "LIFELIGHT LP"	CLIFE
EX1	SURFACE MOUNTED LED EXIT LUMINAIRE C/W BATTERY BACK-UP	CLEVERTRONICS "CLEVERFIT LP"	CCFLED

ISOLATOR SCHEDULE	
TYPE	DESCRIPTION
1	32AMP 1-PHASE SUPPLY TO HOT WATER UNIT. TERMINATE SUPPLY IN A WEATHERPROOF LOCKABLE ISOLATOR LOCATED ADJACENT TO THE UNIT AND MAKE FINAL TERMINATION. CONFIRM SUPPLY SIZE AND LOCATION WITH THE HYDRAULIC TRADE PRIOR TO INSTALLATION.



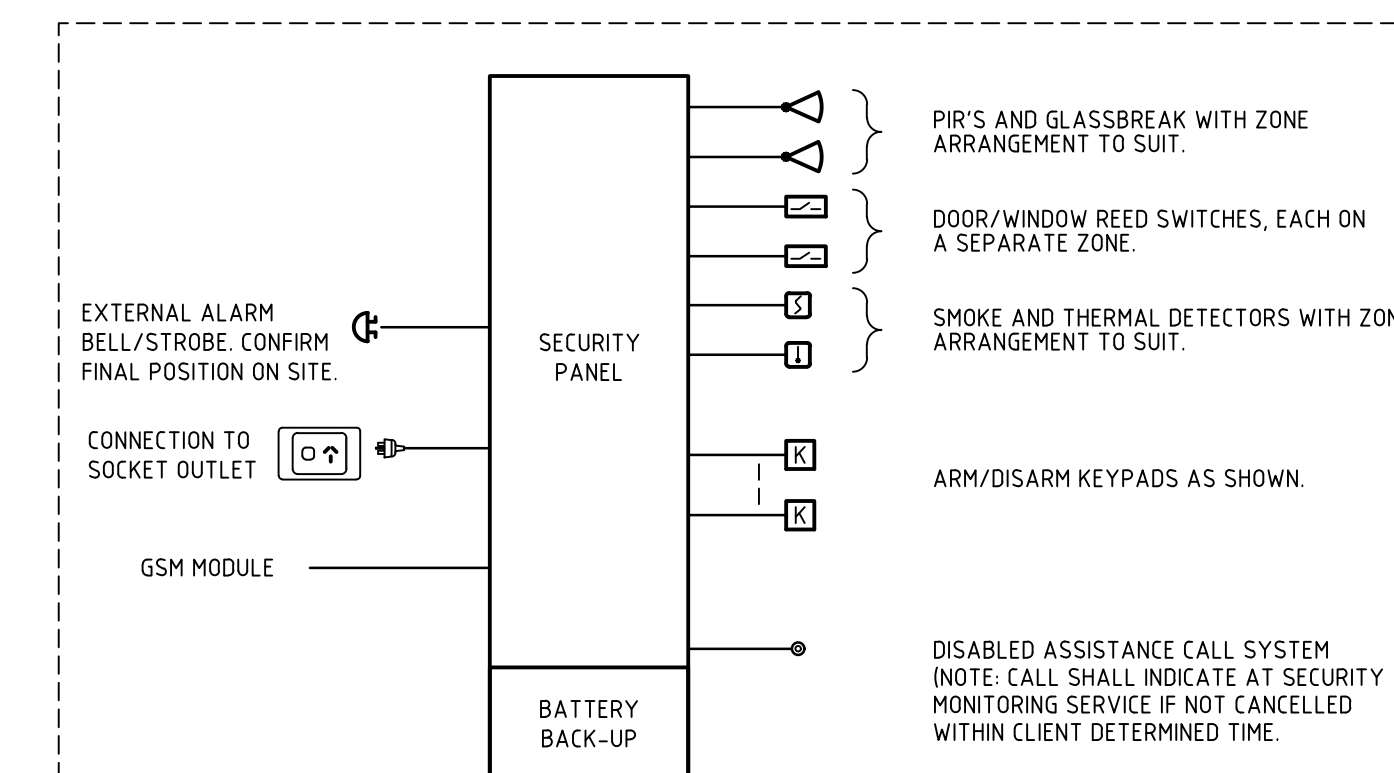
SINGLE LINE DIAGRAM
NOT TO SCALE



EMERGENCY/EXIT LIGHTING TEST CIRCUIT

NOTES

- TYPICAL LIGHTING CIRCUIT FOR AREA HAVING EMERGENCY/EXIT LIGHTING. REFER TO LAYOUT PLANS FOR NUMBER OF CIRCUITS REQUIRED. PROVIDE ENGRAVED LABEL(S) AS FOLLOWS: "WARNING - INTERRUPTING SUPPLY WILL DISCHARGE EMERGENCY/EXIT LIGHTING BATTERIES" TO ALL APPLICABLE CIRCUITS.
- PROVIDE ENGRAVED LABEL AS FOLLOWS: "EMERGENCY/EXIT LIGHTING TEST SWITCH"
- ELECTRONIC TIME DELAY UNIT INSIDE SWITCHBOARD. USE HPM TX770/10H OR EQUIVALENT. (SET AT 2.5 HRS.)
- 4 POLE CONTACTOR WITH AUXILIARIES. MINIMUM RATING OF CONTACTS 16A. No OF CONTACTORS DEPENDS ON No. OF EMERGENCY/EXIT LIGHTING CIRCUITS.
- POWER TO EACH EMERGENCY/EXIT LUMINAIRE SHALL ORIGINATE FROM AN UNSWITCHED ACTIVE TAKEN FROM THE CIRCUIT SERVING THE AREA IN WHICH THE LUMINAIRE IS LOCATED AND FED VIA THE TEST CIRCUIT CONTACTOR.
- PROVIDE AN EMERGENCY LIGHTING LOG BOOK AND HOLDER FOR EACH SWITCHBOARD. FIX THE HOLDER TO THE INSIDE FACE OF THE SWITCHBOARD OR DUCT DOOR AND LEAVE THE LOG BOOK IN THE HOLDER.



SECURITY/ACCESS CONTROL SYSTEM

NOTES

- WORK TO BE CARRIED OUT BY AN APPROVED, LICENCED, SECURITY SUB-CONTRACTOR
- QUANTITIES TO BE TAKEN FROM THE DRAWINGS AND SPECIFICATIONS.
- FULL BATTERY BACK UP OF THE SYSTEM IS REQUIRED TO MAINTAIN THE SYSTEM FULLY OPERATIONAL FOR A MINIMUM OF 8 HOURS ON MAINS FAILURE.
- ALL INTERFACES, RELAYS, CABLING AND CONTROLS TO BE PROVIDED. THE RESPECTIVE SUB CONTRACTORS MUST COORDINATE THEIR SERVICES ACCORDINGLY. PROVIDE ALARM LINE TO DE-ENERGISE DOORS, AND SIMILAR, ON FIRE ALARM.
- THE PANEL IS TO BE FULLY MONITORED REMOTELY. POWER FAILURE ALARM, ON THE SEC, OR ANY DGP, IS TO BE INITIATED IMMEDIATELY.
- CONNECTIONS TO SOCKET OUTLETS BY POWER PACK TRANSFORMERS ARE NOT ACCEPTABLE. INSTALL SOCKET OUTLETS WITHIN, OR BEHIND THE SEC, OR DGP ENCLOSURES, TO PREVENT INADVERTANT SWITCHING OFF.

NOTES:

- ELECTRICAL CONTRACTOR TO CHECK ALL DIMENSIONS AGAINST ARCHITECTURAL DRAWINGS AND FROM SITE PRIOR TO COMMENCING CONSTRUCTION. DRAWINGS ARE INDICATIVE ONLY AND DO NOT PURPORT TO ENCOMPASS ALL DETAILS REQUIRED FOR THE DETAILED COORDINATION BETWEEN TRADES AND THE AS BUILT STRUCTURE. CONTRACTORS ARE ADVISED TO COMPLETE A THOROUGH SITE INSPECTION TO DETERMINE FULL SCOPE OF WORKS, INCLUDING DEMOLITION AND CABLE ROUTES PRIOR TO TENDER SUBMISSION.
- ELECTRICAL CONTRACTOR TO ALLOW TO OPEN/UNLOCK AND INVESTIGATE THE CONFIGURATION OF THE EXISTING POLE MOUNTED SITE MAIN SWITCHBOARD / METER PANEL AND ASSOCIATED OUTGOING CIRCUITS.

REPLACE THE EXISTING POLE MOUNTED SWITCHBOARD / METER PANEL WITH NEW WESTERN POWER COMPLIANT TYPE SUITABLE FOR SAME NUMBER OF MASTER METERS AND OUTGOING CIRCUITS. RE-CONNECT EXISTING OUTGOING CIRCUITS TO REMAIN (TO BE DETERMINED ON SITE). RETAIN THE EXISTING POLE TO FACILITATE THE INSTALLATION OF THE NEW OVER-HEAD SUBMAIN TO BUILDING DB. PROVIDE M.E.N AT NEW SMSB IN ACCORDANCE WITH AS/NZS 3000.

ALLOW TO MAKE CONTACT WITH WESTERN POWER ON BEHALF OF THE CLIENT, TO RE-ESTABLISH THE POWER CONNECTION THROUGH TO THE BUILDING.

- THE FOLLOWING ITEMS WILL BE UNDERTAKEN AS PART OF STAGE 1 WORKS (REFER DWG. E02):
 - INVESTIGATION OF EXISTING SITE MAIN SWITCHBOARD (SMSB)
 - REPLACEMENT OF EXISTING SMSB
 - PROVISION OF THE NEW BUILDING DB AND SUBMAIN FROM THE SMSB.
 - PROVISION OF BUILDING EXTERNAL LIGHTING CIRCUITS AND CONTROL.

THE FOLLOWING ITEMS WILL BE UNDERTAKEN AS PART OF STAGE 2 WORKS (REFER DWG. E03):

- ALL INTERNAL BUILDING ELECTRICAL SERVICES WORKS.

- DIGITAL DIN RAIL MOUNTED MULTIFUNCTION METER SHALL BE ABLE TO CONNECT TO THE NETWORK, RECORD AND MONITOR THE FOLLOWING (MINIMUM):

- KILOWATT-HOUR CONSUMPTION
- ACTIVE AND REACTIVE ENERGY
- PHASE-TO-PHASE AND PHASE-TO-NEUTRAL VOLTAGE
- PHASE AND NEUTRAL CURRENT
- CURRENT DEMAND
- MAXIMUM DEMAND CURRENT
- POWER FACTOR
- MAXIMUM DEMAND POWER
- TOTAL HARMONIC DISTORTION

0	01/05/24	TENDER ISSUE	PD
REV	DATE	DESCRIPTION	BY

TENDER ISSUE



DISCIPLINE: **ELECTRICAL SERVICES**

PROJECT: **BROOKTON RAILWAY STATION REFURBISHMENT**

DRAWING: **LEGENDS, SCHEDULES & LINE DIAGRAMS**

DRAWN	DESIGNED	REVIEWED	APPROVED	DATE	SCALE
PD	PD	EL	EL	DEC 2023	NTS @ A1
BCA PROJECT No. 230722			DRAWING No.	E01	REV 0



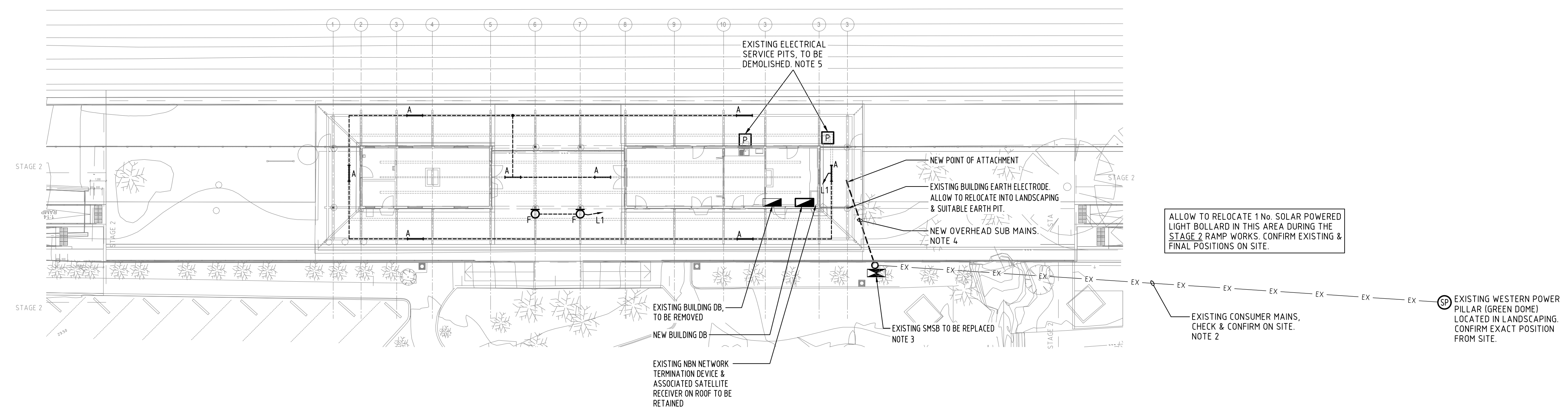
NOTES:

- ELECTRICAL CONTRACTOR TO CHECK ALL DIMENSIONS AGAINST ARCHITECTURAL DRAWINGS AND FROM SITE PRIOR TO COMMENCING CONSTRUCTION. DRAWINGS ARE INDICATIVE ONLY AND DO NOT PURPORT TO ENCOMPASS ALL DETAILS REQUIRED FOR THE DETAILED COORDINATION BETWEEN TRADES AND THE AS BUILT STRUCTURE. CONTRACTORS ARE ADVISED TO COMPLETE A THOROUGH SITE INSPECTION TO DETERMINE FULL SCOPE OF WORKS, INCLUDING DEMOLITION AND CABLE ROUTES PRIOR TO TENDER SUBMISSION.
- ROUTE OF EXISTING CONSUMER MAINS IS INDICATIVE ONLY AND NOT BASED ON ANY AS CONSTRUCTED OR SCANNED INFORMATION. CONTRACTOR TO DETERMINE ON SITE AND HIGHLIGHT TO ALL BUILDING TRADES FOR SAFETY AND PROTECTION.
- ELECTRICAL CONTRACTOR TO ALLOW TO OPEN/UNLOCK AND INVESTIGATE THE CONFIGURATION OF THE EXISTING POLE MOUNTED SWITCHBOARD / METER PANEL AND ASSOCIATED OUTGOING CIRCUITS.

REPLACE THE EXISTING POLE MOUNTED SWITCHBOARD / METER PANEL WITH NEW WESTERN POWER COMPLIANT TYPE SUITABLE FOR SAME NUMBER OF MASTER METERS AND OUTGOING CIRCUITS. RETAIN THE EXISTING POLE TO FACILITATE THE INSTALLATION OF THE NEW OVER-HEAD SUBMAIN.

ALLOW TO MAKE CONTACT WITH WESTERN POWER ON BEHALF OF THE CLIENT, TO RE-ESTABLISH THE POWER CONNECTION THROUGH TO THE BUILDING.
- SUPPLY AND INSTALL NEW XLPE BUNDLED AERIAL SUBMANS FROM THE EXISTING METAL POWER POLE TO THE STATION BUILDING. TERMINATE USING A CLIPSAL MAINS CONNECTION BOX CAT No 645/4 OR EQUAL AND APPROVED. CONNECT THROUGH TO THE NEW BUILDING DISTRIBUTION BOARD.
- REMOVE THE EXISTING FIBRE- CONCRETE PITS WHICH CONTAIN ASBESTOS. REMOVAL AND DISPOSAL OF THE EXISTING ASBESTOS PITS SHALL BE IN ACCORDANCE WITH THE ASBESTOS MANAGEMENT PLAN FOR THE PROJECT.

REMOVE ALL REDUNDANT CABLING THROUGH THE PIT AND CABLING RUNNING BACK INTO THE BUILDING.
- EXTERNAL LIGHTING SWITCHED VIA PE CELL AND TIMER CONTROL WITH OVERRIDE ON NEW BUILDING DB.



ALLOW TO RELOCATE 1 No. SOLAR POWERED LIGHT BOLLARD IN THIS AREA DURING THE STAGE 2 RAMP WORKS. CONFIRM EXISTING & FINAL POSITIONS ON SITE.

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REV	DATE	DESCRIPTION	BY	CHKD

TENDER ISSUE



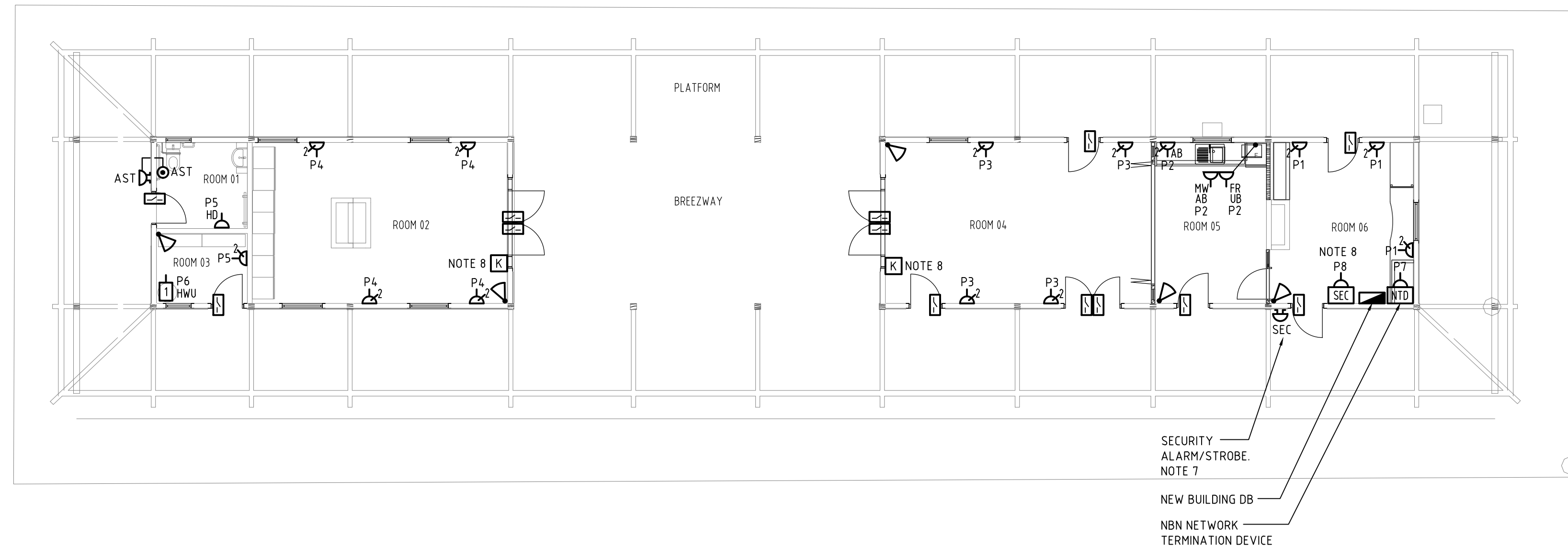
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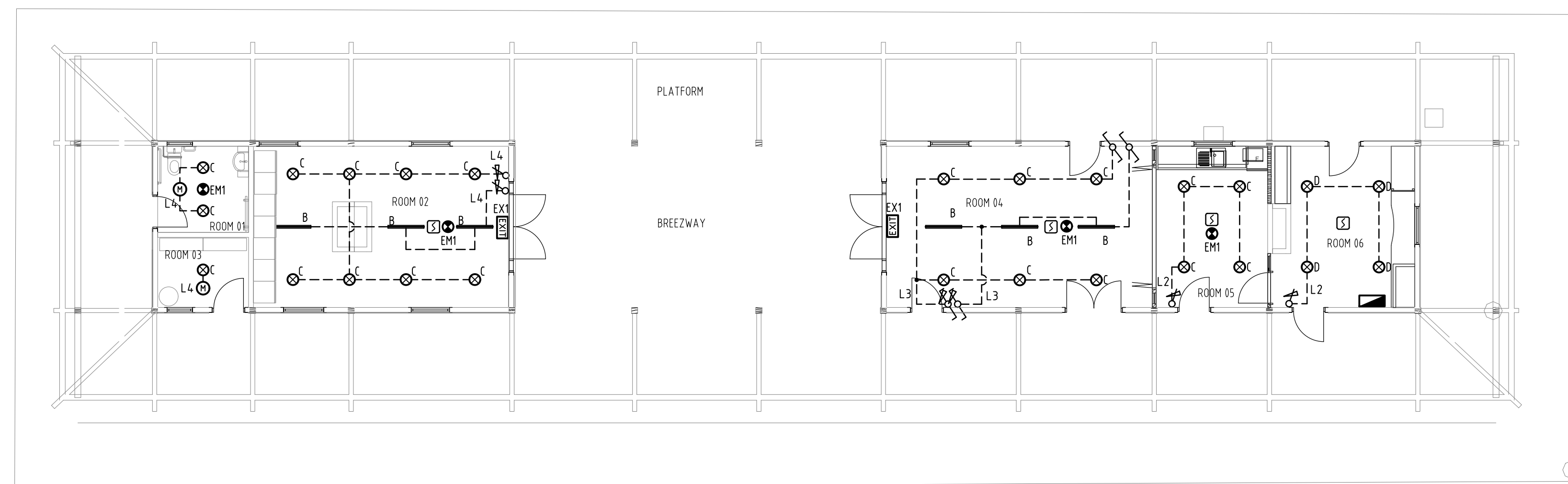
PROJECT: **BROOKTON RAILWAY STATION REFURBISHMENT**

DRAWING: **SITE PLAN STAGE 1**

PD	DESIGNED	REVIEWED	APPROVED	DATE	SCALE
BCA PROJECT No.	PD	EL	EL	DEC 2023	1:200 @ A1
230722					REV
					E02 0



POWER & COMMUNICATIONS LAYOUT
SCALE 1:100



LIGHTING LAYOUT
SCALE 1:100

NOTES:

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2. REFER TO ARCHITECTURAL CEILING PLANS FOR EXACT SETOUT OF LUMINAIRES.
3. EMERGENCY AND EXIT LUMINAIRES SHALL BE CONNECTED TO THE UNSWITCHED ACTIVE OF THE ADJACENT LIGHTING CIRCUIT VIA THE EMERGENCY LIGHTING TEST FACILITY WITHIN THE BUILDING DISTRIBUTION BOARD IN ACCORDANCE WITH AS/NZS2293.
4. SMOKE DETECTORS SHALL BE CONNECTED TO THE SECURITY SYSTEM AND ACTIVATE AN ALARM TO THE SECURITY MONITORING SYSTEM IRRESPECTIVE OF IF THE SYSTEM IS ARMED OR DISARMED.
5. UNLESS OTHERWISE INDICATED GPO'S, LIGHT SWITCHES AND SECURITY ARMING STATIONS SHALL BE LOCATED AT 1350AFL.
6. CONFIRM FINAL LOCATIONS OF POWER SUPPLIES FOR MECHANICAL AND HYDRAULICS EQUIPMENT WITH THE RELEVANT TRADE PRIOR TO INSTALLATION.
7. FINAL LOCATION OF SECURITY ALARM STROBE SHALL BE CONFIRMED IN CONJUNCTION WITH THE ARCHITECT PRIOR TO INSTALLATION.
8. CONFIGURE SECURITY TO EACH BUILDING AS A SEPARATE ZON TO ENABLE EACH BUILDING TO BE ARMED/DISARMED INDIVIDUALLY.
9. PROVIDE AN ASSISTANCE CALL LATCHING PUSHBUTTON C/W LOCAL CANCEL AND ASSOCIATED SOUNDER C/W ENGRAVED "ASSISTANCE REQUIRED" FOR THE UAT. ACTIVATION OF THE PUSHBUTTON WILL SOUND THE BUZZER. ALSO REFER TO DWG. E01 FOR CONNECTION TO SECURITY SYSTEM.

0	01/05/24	TENDER ISSUE	PD
REV	DATE	DESCRIPTION	BY

TENDER ISSUE



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PROJECT: **BROOKTON RAILWAY STATION REFURBISHMENT**

DRAWING: **LIGHTING, POWER & COMMUNICATIONS LAYOUT STAGE 2**

PD	DESIGNED	REVIEWED	APPROVED	DATE	SCALE
PD	EL	EL	EL	DEC 2023	1:100 @ A1
BCA PROJECT No.	DRAWING No.		REV		
230722	E03		0		