SPECIFICATION

SITE VISIT

THE CONTRACTOR SHALL BE DEEMED TO HAVE THOROUGHLY INSPECTED THE SITE PRIOR TO COMMENCEMENT OF WORK AND TO HAVE TAKEN INTO ACCOUNT ANY CONDITIONS LIKELY TO AFFECT THE EXTENT OF PERFORMANCE OF THE CONTRACT.

CODES AND STANDARDS

NOT WITHSTANDING THAT STATED HEREIN, THE ENTIRE ELECTRICAL SERVICES INSTALLATION SHALL FULLY COMPLY WITH THE REGULATIONS OF THE FOLLOWING AUTHORITIES:

- VICTORIAN BUILDING REGULATIONS INCORPORATING BUILDING CODE OF AUSTRALIA.
- INSURANCE COUNCIL OF AUSTRALIA (ICA) ELECTRICITY LOCAL NETWORK PROVIDER
- OCCUPATIONAL HEALTH AND SAFETY ORGANISATION
- ALL RELEVANT AUSTRALIAN STANDARDS AND ALL AMENDMENTS TO THOSE STANDARDS, INCLUDING BUT NOT LIMITED TO AS3000, AS3008, AS2293, AS1670, Δ51680 Δ53439
- CLIENT SPECIFIC STANDARDS WHERE APPLICABLE

SCOPE OF WORKS

- THE SCOPE OF THE WORKS INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING: - SUPPLY AND INSTALL NEW MAIN DISTRIBUTION BOARD AS SHOWN ON THE SCHEMATICS. PROVIDE CIRCUIT SCHEDULE INSIDE THE MSB COMPLETE WITH SCHEMATIC
- SUPPLY, INSTALL AND CONNECT NEW SUBMAIN BETWEEN THE TENANT SWITCHBOARD
- AND THE MAIN SWITCHBOARD. SUPPLY AND INSTALL NEW LIGHTING AND POWER FINAL SUB-CIRCUITS AS SHOWN ON
- THE DRAWINGS CIW RCD'S AS REQUIRED. SUPPLY, INSTALL AND CONNECT ALL LIGHT FITTINGS AS SHOWN ON DRAWINGS.
- SAMPLES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK. SUPPLY AND INSTALL ALL LIGHT SWITCHES, GPOS, ISOLATORS ETC AS SHOWN.
- SUPPLY AND INSTALL EXIT AND EMERGENCY LIGHTING SYSTEM AS SHOWN. SUPPLY AND INSTALL (LIPSAL STARSERVE DEVELOPER PACK FOR COMMUNICATIONS & MATV DISTRIBUTION SYSTEM AS SHOWN.
- SUPPLY AND INSTALL SECURITY ACCESS CONTROL SYSTEM AS SHOWN.
- SUPPLY AND INSTALL TIMER CIRCUITS AND SENSORS AS PER BCA PART J SUPPLY AND INSTALL SMOKE ALARM SYSTEM TO EACH TOWNHOUSE AS SHOWN.
- PROVISION OF SHOP DRAWINGS FOR MSB
- MATV SYSTEM
- LABELLING OF ALL OUTLETS, SWITCHES AND EQUIPMENT.
- TESTING AND COMMISSIONING PROVISION OF MAINTENANCE MANUALS AND AS-BUILT DRAWINGS
- PROVISION OF 12 MONTHS MAINTENANCE AND WARRANTY.
- LIAISE WITH ALL OTHER TRADE CONTRACTORS TO ENSURE THE ELECTRICAL INSTALLATION IS CO-ORDINATED AND INSTALLED IN A WELL CO-ORDINATED MANNER.
- BUILDER / ELECTRICAL CONTRACTOR TO LIAISE WITH POWER AUTHORITY IN REGARDS TO THE PERMANENT ELECTRICAL SUPPLY AND SUPPLY OFFER.
- ALLOW FIRE RATED BOX TO GPO'S, SWITCHES AND LIGHTS TO MAINTAIN FIRE COMPARTMENTS. REFER TO FIRE ENGINEER REPORT AND LIAISE WITH BUILDER
- WHERE ELECTRICAL INFRASTRUCTURE PASSES THROUGH FIRE COMPARTMENTS, CONTRACTOR TO ALLOW TO SEAL ALL PENETRATIONS TO MAINTAIN INTERGRITY OF FIRE RATED FLEMENT
- PROVIDE POWER TO WATERS METERS IN RISER CUPBOARDS FOR APARTMENTS AND SGPO TO ALL PUBLIC PASSAGE AND LOBBY AREAS TO FOR CLEANERS.

ASSOCIATED WORKS

BY BUILDER PROVISION OF ACCESS TO CEILING SPACE

- PATCHING AND SEALING OF PENETRATIONS
- BY PRINCIPAL
- PROVISION OF UPS
- 2. UPGRADE OF PABX AND PROVISION OF HANDSETS

ALL WORKMANSHIP SHALL BE OF A HIGH STANDARD THROUGHOUT AS ACCEPTED BY THE RESPECTIVE SPECIALIST TRADES. WHERE THE ENGINEER CONSIDERS WORKMANSHIP IS NOT CONSISTENT WITH GOOD TRADE PRACTICE OR STANDARDS, OR THAT ANY PLANT IS INFERIOR OR DEFICIENT IN QUALITY TO THAT SPECIFIED, NOTWITHSTANDING THAT A PROGRESS PAYMENT MAY HAVE BEEN MADE IN RESPECT THEREOF, THE ENGINEER MAY GIVE NOTICE IN WRITING SETTING FORTH THE DEFECT OR DEFICIENCY AND SUCH REFUSAL SHALL BE CONCLUSIVE. REJECTED WORK OR MATERIALS SHALL BE REMOVED FROM THE SITE WITHIN 24 HOURS OF SUCH REJECTION. DEFECTIVE WORK SHALL BE RECONSTRUCTED TO CONFORM TO THE SPECIFIED REQUIREMENTS AT NO COST TO THE PROJECT.

CLEANING

THE SITE SHALL BE KEPT (LEAN AND TIDY THROUGHOUT THE COURSE OF THE WORK AND ALL RUBBISH SHALL BE REMOVED REGULARLY PRIOR TO PRACTICAL COMPLETION. AT THE CONCLUSION OF THE WORK, ALL DEBRIS AND RUBBISH SHALL BE CLEARED AWAY AND REMOVED FROM THE SITE AND THE COMPLETED INSTALLATION SHALL BE LEFT THOROUGHLY CLEAN.

WARRANTY

THE COMPLETE WORKS SHALL BE WARRANTED AGAINST DEFECTIVE WORKMANSHIP AND MATERIALS (FAIR WEAR AND TEAR EXCEPTED). DURING THE WHOLE OF THE WARRANTY PERIOD (TWELVE MONTHS AFTER PRACTICAL COMPLETION) WARRANTY AND BREAKDOWN MAINTENANCE IN CONNECTION WITH WORK OF THIS CONTRACT SHALL BE PERFORMED WITHOUT COST.

COMPLIANCE CERTIFICATE

NOTIFY ALL RELEVANT AUTHORITIES OF THE NATURE OF THE WORK TO BE CARRIED OUT AND PAY ALL NECESSARY RATES AND CHARGES. AT THE COMPLETION OF THE INSTALLATION THE ELECTRICAL CONTRACTOR IS TO ENGAGE THE ELECTRICAL INSPECTOR TO CARRY OUT A DETAILED REVIEW OF THE INSTALLATION IN ORDER TO DETERMINE COMPLIANCE WITH REGULATIONS. PROVIDE THREE COPIES OF THE REPORT TO THE ENGINEER AT COMPLETION. A COPY OF THE IS TO BE INCLUDED IN THE OPERATING AND MAINTENANCE MANUAL

ELECTRICAL INSPECTION & CERTIFICATION Pty. Ltd. TEL: 0408 992 577 EMAIL: DERREN@EICINSPECTIONS.COM.AU

CONTACT: MR DERREN KEENAN

LABELLING

LABEL ALL GPO OUTLETS, POWER SUPPLIES AND LIGHTING SWITCHES TO CLEARLY INDICATED CIRCUIT NUMBER AND DISTRIBUTION BOARD NUMBER. LABELS ARE TO BE ENGRAVED AND FIXED TO THE FACEPLATES WITH INDUSTRIAL ADHESIVE LABELS WILL BE BLACK LETTERS ON WHITE BACKGROUND. SUBMIT LABELLING SCHEDULE AND TYPICAL SAMPLE TO ENGINEER FOR APPROVAL PRIOR TO COMMENCING LABEL MANUFACTURE.

FINAL SUB-CIRCUIT WIRING

NEW FINAL SUB-CIRCUIT WIRING FOR LIGHTING AND POWER SHALL BE MINIMUM 2.5mm ² 2 CORE + ECC PVC/PVC.

ALL WIRING SHALL BE RUN ON CABLE TRAYS WHERE SHOWN, OTHERWISE RUN ON CATENARY. ALL OUTLETS SHALL BE CLIPSAL SERIES 2000, STANDARD COLOUR AS SELECTED BY THE ARCHITECT, LIGHTING CIRCUITS SHALL GENERALLY BE 16A, CIRCUIT BREAKERS LOADED TO 12A MAX. POWER CIRCUITS SHALL BE 20A, CIRCUIT BREAKERS CONNECTED WITH 8 POINT MAX ON EACH CIRCUIT

LOCATIONS

THE LOCATIONS & QUANTITIES OF ALL OUTLETS, LIGHTS, GPO'S AND EQUIPMENT ARE INDICATIVE ONLY, ALLOW TO PRICE AND INSTALL IN CONJUNCTION WITH ARCHITECT DETAILS AND RCP'S. CONFIRM THE LOCATIONS OF ALL ITEMS PRIOR TO INSTALLATION

TESTING AND COMMISSIONING

CARRY OUT TESTS REQUIRED BY REGULATORY AUTHORITIES AND TESTS NECESSARY TO DEMONSTRATE COMPLIANCE WITH THE PERFORMANCE OF THE SPECIFICATION AND DRAWINGS

EXIT AND EMERGENCY LIGHTING

SUPPLY AND INSTALL NEW EMERGENCY AND EXIT LIGHTS AS SHOWN. THE INSTALLATION SHALL COMPLY WITH AS 2293 AN EMERGENCY LIGHTING TEST FACILITY SHALL BE INSTALL IN THE HOUSE DISTRIBTION SWITCHBOARD COMPLETE WITH TEST SWITCH AND 2 hrs TIMER etc. IN ACCORDANCE WITH AS2293. PROVIDE EMERGENCY LIGHT WITHIN 2M OF EXIT DOORS, CHANGE OF LEVEL AND CHANGE OF DIRECTION IN PASSAGE WAY.

AUTHORITY METERS

MAKE APPLICATIONS AND PAY ALL FEES REQUIRED BY LOCAL SUPPLY AUTHORITY. PREPARE AND SUBMIT APPLICATIONS INCLUDING THOSE WHICH ARE REQUIRED TO BE SIGNED BY THE PROPRIETOR OR TENANT

PRIOR TO HAND OVER, THE CONTRACTOR IS TO MAKE APPLICATION TO THE ELECTRICITY RETAILER FOR THE INSTALLATION OF THE METERS UNDER THE CONTRACTOR'S NAME FOR THE DURATION OF THE CONTRACT. CONTRACTOR TO MAKE ALL PROVISIONS NECESSARY FOR THE INSTALLATION OF THE METERS. ALL ELECTRICITY USED FOR TESTING AND COMMISSIONING SHALL BE PAID BY THE CONTRACTOR.

COMMUNICATIONS

THIS WORK SHALL BE CARRIED OUT BY A REGISTERED CABLER FOR GENERAL PERMISSION CABLING AND THE CABLING SYSTEM/CABLE PRODUCT MANUFACTURER SHALL CERTIFY THE CONTRACTOR AS AN INSTALLER. THIS VOICE CABLING SYSTEM SHALL BE STAR TOPOLOGY CONNECTING OUTLETS TO A FINAL DISTRIBUTION PANEL USING RJ45 CAT 6 FOR DATA & RJ11 CAT 3 FOR VOICE CONNECTIONS

DATA CONTRACTOR TO REGISTER THE PROJECT WITH TELSTRA OR NBN AT THE START OF THE CONSTRUCTION. MAKE APPLICATION WITH TELSTRA OR NBN ON BEHALF OF THE CLIENT FOR TELSTRA OR NBN TO INSTALL INCOMING FEED. REGISTER AND PAY PHONE CONNECTIONS FOR ALL SPECIALTY CONNECTIONS (EG. SECURITY SYSTEMS, REMOTE ELECTRICAL AND WATER METER READING FIP ETC.).

FOR NBN SITES REFER NBN CO DESIGN GUIDES FOR DESIGN AND INSTALLATION REQUIREMENTS: CONFIRM IF WITHIN NBN FOOTPRINT PRIOR TO PRICING\STARTING WORKS. ALLOW DRAWINGS SHOWING PATHWAYS TO BE SUBMITTED TO NBNCO FOR APPROVAL. ONCE NBN HAS INSTALLED THE NTD WITHIN APARTMENT SUPPLY & INSTALL FLY LEADS INTO THE VOICE AND DATA POINTS. PROVIDE PHONE LINE TO FIRE CENTER ROOM WHERE APPLICABLE

MATV SYSTEM

DESIGN SUPPLY INSTALL TEST COMMISSION & PROVIDE SUBSEQUENT WARRANTY & MAINTENANCE OF A COMPLETE SATELLITE MASTER ANTENNA TELEVISION (SMATV) SYSTEM. CONTRACTOR TO REGISTER THE PROJECT WITH FOXTEL PRIOR TO COMMENCING WORKS. UPON COMPLETION, OBTAIN CERTIFICATE OF COMPLETION / ACCEPTANCE FROM FOXTEL PRIOR TO HANDING OVER TO THE CLIENT.

SECURITY ACCESS CONTROL & INTERCOM SYSTEM PROVIDE A SECURITY ACCESS CONTROL AND INTERCOM/DOOR RELEASE SYSTEM WITH FULLY INTEGRATED WITH VISUAL MONITOR SYSTEM MASTER CALL POINT SHALL INCLUDE A CARD READER, AN AUDIO MIMIC, COLOR VIDEO CAMERA, ELECTRONIC LATCH ON ADJACENT DOOR AND KEYPAD. TENANT APARTMENT STATION IN EACH UNIT COMPRISING 7" COLOUR MONITOR INTERCOM HANDSET COMPLETE WITH DOOR RELEASE MAIN ENTRY AND BACK DOOR.

LIGHTING CONTROL ALL LIGHTING SHALL BE CONTROLLED FROM SWITCH PANELS AS REQUIRED AND INDICATED ON THE DRAWINGS. SWITCHING OF THE LIGHTING WITHIN EACH COMMON AREA VIA MOVEMENT/PE CELL

- SENSORS (AS SHOWN), SO THAT THE FOLLOWING CAN BE ACHIEVED: AUTOMATIC MOVEMENT SENSORS AND (TIME CLOCK) CONTROL OF EACH AREA AS INDICATED. EXTERNAL TO BE AUTOMATICALLY CONTROLLED VIA PE CELL AND MOTION SENSOR SO THAT
- LIGHTS TURN OFF ACCORDINGLY TO THE AMOUNT OF DAYLIGHT AND THE TIME THE DAY. TURN ALL EXTERNAL LIGHTS "ON" AT DUSK FOR 4 HOURS BY A RE-PROGRAM TIMER SWITCH
- SECURITY LIGHTING WILL INTERCONNECT WITH THE SECURITY SYSTEM WHERE-BY LIGHTS WILL TURN "ON" AUTOMATICALLY ON ACTIVATION OF A SECURITY ALARM. LIGHTING CONTROLS WITHIN EACH APARTMENT SHALL CONSIST OF LOCALISED MANUAL SWITCHES

AS INDICATED ON DRAWINGS OFFICE LIGHTING FOR BUILDINGS OVER 250M2 TO HAVE SENSORS OR KEY CARD TO TURN LIGHTS OFF. IN ACCORDANCE WITH BCA PARTJ6

ALLOW SENSORS TO CAR PARKS UNDER 2000M2 IN SWITCH BANKS OF 250M2 AND SENSORS TO CAR PARKS OVER 2000M2 IN SWITCH BANKS OF 1000M2 TO SUIT PARTJ6.3

SMOKE ALARM

THE WORKS SHALL INCLUDE BUT NOT BE RESTRICTED TO THE FOLLOWING:

SMOKE ALARMS (PHOTOELECTRIC TYPE) TO AS 3786, MAINS POWER WITH BATTERY BACKUP. INTERCONNECT ALL DETECTORS WITHIN SAME UNIT, SOUND PRESSURE LEVEL TO AS 3786

TYPE: AMPAC LIFESAVER 4800R DISTRIBUTION SWITCHBOARDS

NEW MAIN SWITCHBOARD SHALL COMPLY WITH AS3439.1 BE TOTALLY ENCLOSED METAL CLAD. FREE STANDING/WALL FIXED AND DUST PROOF TYPE. COMPLETE WITH HINGE LOCKABLE DOOR (CL001), PAINTED GLOSS GREY TO AS2700. TYPED CIRCUIT SCHEDULES AND DRAWING FOR THE CONSTRUCTION SHALL BE AFFIXED TO THE INSIDE OF THE MAIN SWITCHBOARD.

ELECTRICAL EQUIPMENT AND ACCESSORIES SHALL NOT BE CONNECTED TO THE DISTRIBUTION SWITCHBOARD CIRCUIT BREAKERS UNTIL THEY HAVE BEEN TESTED TO BE SAFE OPERATIONAL ORDER. BALANCE THE LOAD EVENLY ACROSS ALL THREE PHASES DURING COMMISSIONING. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO MANUFACTURE. UNLESS NOTED OTHERWISE ALL APARTMENT SWITCHBOARD SHALL BE THREE PHASE, FULLY DIN-RAIL,

SEMI RECESS MOUNTED AS PER NOTED IN SINGLE LINE DIAGRAM. ALL SPATIAL REQUIREMENTS AND CLEARANCES MUST BE CONFIRMED WITH THE RELEVANT AUTHORITY PRIOR TO MANUFACTURING OF MSB ETC.

START UP

EQUIPMENT MANUFACTURERS OF SWITCH BOARDS, LIGHT FITTINGS, PUMPS, PACKAGED AIR CONDITIONING UNITS, BOILERS, CHILLERS, CONDENSING SETS PACKAGED REFRIGERATING/COOLING EQUIPMENT AND ALL OTHER EQUIPMENT AS APPLICABLE MUST ALLOW TO START UP EQUIPMENT AND PROVIDE THE REQUIRED TWELVE (12) MONTHS SERVICE AND WARRANTY UNDER NO CIRCUMSTANCES WILL THE MANUFACTURER OR HIS REPRESENTATIVE BE PERMITTED TO CEDE OR ASSIGN HIS RESPONSIBILITIES TO THE CONTRACTOR. THE MANUFACTURER MUST ASSUME AND MAINTAIN THE FULL RESPONSIBILITY FOR THE CORRECT APPLICATION AND OPERATION OF HIS EQUIPMENT BOTH AT START UP AND DURING THE GUARANTEE PERIOD.

MAINTENANCE MANUALS

PRIOR TO PRACTICAL COMPLETION PREPARE AND ISSUE THREE (3) SETS OF MANUALS CONTAINING COMPREHENSIVE INSTRUCTIONS FOR OPERATING AND MAINTAINING THE SERVICES. PROVIDE LOGBOOK FOR EMERGENCY LIGHTING AND RECORD INITIAL TEST RESULTS. MANUAL SHALL INCLUDE :

- DESCRIPTION OF NEW SYSTEMS & PRACTICAL COMPLETION.
- TECHNICAL LITERATURE FOR INSTALLED EQUIPMENT. COMPLIANCE CERTIFICATES. A COPY TO BE ISSUED 2 WEEKS PRIOR TO THE
- OPERATING AND MAINTENANCE INSTRUCTIONS
- TESTING AND COMMISSIONING DATA & SUPPLIER INFORMATION. - AS BUILT DRAWINGS 3 X HARD (OPIES & 3 X CD-ROM (AD DWGS

ALL PLANT AND ASSOCIATED EQUIPMENT INCLUDING TIME SWITCHES/ MOTION DETECTORS, ROOM TEMP SENSORS, PLANT THERMOSTATS, MOTORIZED AIR DAMPERS/ CONTROL VALVES, LIGHTING REFLECTORS/ LENSES/ DIFFUSERS ETC. IN ACCORDANCE WITH PART JI2, TO BE CONTINUOUSLY MAINTAINED TO PERFORM THE FUNCTIONS AS ORIGINALLY INTENDED/ DESIGNED. VARIATIONS

BY SUBMITTING A TENDER FOR THIS WORK, TENDER'S ACKNOWLEDGE THAT THEY HAVE FULLY ASSESSED THE NECESSARY EXTENT OF WORK AND HAVE ALLOWED FOR ALL ITEMS. ACTIVITIES. MATERIALS AND LABOUR WHICH ARE OBVIOUSLY REQUIRED, WHETHER OR NOT THESE ARE CLEARLY IDENTIFIED ON PLANS OR SPECIFICATION. NO COST ADJUSTMENT WILL BE CONSIDERED FOR FAILURE TO RECOGNIZE AND IDENTIFY ANY POTENTIAL EXTRA COSTS PRIOR TO SIGNING ANY CONTRACT. COMMISSIONING

FULL DETAILS OF ALL COMMISSIONING DATA FOR ALL EQUIPMENT MUST BE PRESENT TO THE ENGINEER FOR HIS ASSESSMENT. PRACTICAL COMPLETION WILL NOT BE CONSIDERED UNTIL THIS REQUIREMENTS HAS BEEN MET. DATA MUST BE PRESENTED IN COMPARISON WITH CATALOGUE DATA INCLUDING PHASE BALANCING, GENERATOR PERFORMANCE TEMPERATURES, MAXIMUM DEMAND, CURRENT DRAWN, FLOW, PRESSURE, SPEED, CAPACITY, AIR/WATER ON/OFF CONDITIONS ALL AS APPLICABLE. THE ENGINEER MAY THEN REQUEST FURTHER TESTS AND DATA.

CABLE TRAY INSTALLATIONS

- CATENARY WIRE FOR FIRE ALARM CABLING

ALL CABLING (TYPICALLY IN CORRIDOR CEILING SPACE AND HIGH LEVEL CAR-PARKS) TO BE INSTALLED ON GALVANISED STEEL TRAY COMPLETE WITH 25% SPARE CAPACITY. ELECTRICAL CABLING TO BE INSTALLED ON SEPERATE CABLE TRAY. A COMMON CABLE TRAY MAY BE USED FOR ELV CABLING (EXCEPT FIRE); ELECTRICAL CONTRACTOR TO LIASE WITH SPECIALIST SUB-CONTRACTORS TO CONFIRM SIZING

REDUIREMENTS CABLE TRAY MUST BE PROVIDED FOR FOLLOWING AREAS / INSTALLATIONS:

- CABLE TRAYS FOR MAIN INCOMING CABLING - ALL ELECTRICAL CABLING TO BE INSTALLED ON TRAY IN CAR-PARK CEILING, RISERS AND CORRIDOR CEILING VOIDS. - CATENARY WIRE MAY ONLY BE USED WITHIN UNIT.

- CABLE TRAY MUST BE PROVIDED FOR TELSTRA LEAD-IN CABLE WHERE ABOVE GROUND. - COMBINED CABLE TRAY MAY BE PROVIDED FOR SECURITY, CONTROLS CABLING, MATV/SATELITE, TV AND DATA/PHONE IN CAR-CARK CEILING, CORRIDOR CEILING VOIDS AND RISERS.

- CONDUITS SURFACE MOUNTED IN PLANTROOMS AND OTHER AREAS WITHOUT PLASTERBOARD WALLS.

((TV SYSTEM

THE CLOSED CIRCUIT TELEVISION (CCTV) SYSTEM SHALL BE COMPRISED OF HIKVISION DS-8016-HFI-S, 16 (HANNEL REAL TIME @ 704 X 576 RESOLUTION RECORDING DIGITAL VIDEO RECORDERS (DVR'S) EACH WITH 2 TERRA BYTE ONBOARD HARD DISK STORAGE. CAMERA POWER SUPPLIES SHALL BE ENFORCER (EVP-224D16-P16) 12VDC WITH 16 RESETABLE OUTPUTS. CAMERAS IN LIFT CARS SHALL BE FLUSH MOUNT VANDAL PROOF DAY/NIGHT WITH 2.97MM LENS. CAMERAS IN LIFT LOBBIES SHALL BE COLOUR MINI DOME CAMERAS WITH 560TVL RESOLUTION. DAY/NIGHT AND 4-9MM LENS

EXTERNAL AND CAR PARK CAMERAS SHALL BE COLOUR VANDAL DOME CAMERAS WITH 560TVL RESOLUTION DAY/NIGHT WIDE DYNAMIC RANGE AND 4-9MM LENS. CCTV SYSTEM MONITOR SHALL BE 1680 X 1050 RESOLUTION.

PENETRATIONS

PENETRATIONS THROUGH WALLS, FLOORS, CEILING, ETC, SHALL BE SMOKE SEALED WITH NON-COMBUSTIBLE MATERIALS. SMOKE SEALS SHALL BE PLIABLE, LONG LASTING AND CAPABLE OF REMAINING INSITU POSITION ALL TO FER REQUIREMENTS.

SWITCHBOARDS

ALL SWITCHBOARDS IN THE ELECTRICAL INSTALLATION WHICH SUSTAIN THE ELECTRICITY SUPPLY TO EMERGENCY EQUIPMENT, MUST BE CONSTRUCTED SO THAT EMERGENCY EQUIPMENT SWITCHGEAR IS SEPARATED FROM NON EMERGENCY EQUIPMENT SWITCHGEAR BY METAL PARTITIONS DESIGNED TO MINIMISE THE SPREAD OF A FAULT FROM THE NON EMERGENCY EQUIPMENT SWITCHGEAR. REFER TO C2.13d BCA2013

THE EARTH LEAKAGE ON A CIRCUIT SHALL NOT EXCEED ONE-THIRD OF THE TRIPPING CURRENT. WHICH IS SPECIFIED IN AS/NZS3000 CLAUSE 2.6.2.1. THE ACCUMULATION OF EARTH LEAKAGE FROM THE DEVICES CONNECTED TO THE CIRCUIT MUST BE CONSIDERED. CONFIRM WITH SUPPLIER OF THE DEVICE FOR EXACT DETAILS.

EMF SHIELDING MAY NEED TO BE INSTALLED IF AUTHORITY EQUIPMENT IS IN ADJACENT PROXIMITY TO ELECTRONIC EQUIPMENT OR RESIDENCE. THE ELECTRICIAN SHALL OBTAIN A REPORT FROM AN APPROVED EMF CONSULTANT TO DETERMINED THE EXTENT OF THE SHIELDING IF ANY IS REQUIRED. THE REPORT AND INSTALLATION OF EMF SHIELDING SHALL BE SUBJECT TO AUTHORITY ACCEPTANCE.

MW

- MICROWAVE

- MAGNETIC-FLOW METER

AND OVERRIDE SWITCH

W - WALL MOUNTED

WM - WATER METER

GAS PROOF

ABBREVIATIONS T/A - TO ABOVE T/B - TO BELOW F/A - FROM ABOVE F/B - FROM BELOW AB - MOUNTED ABOVE BENCH MOUNTED UNDER BENCH - COOK TOP. IF ELEC, ISOLATOR TO BENCH GPO ٢T RANGE HOOD - ALLOW POWER AND NEON SWITCH TO BOOSTER FAN. CONFIRM IF REQUIRED BY MECH FRIDGE OUTLET DW - MOUNTED UNDER BENCH FOR DISHWASHER W/D - MOUNTED @1100 FOR WASHER/DRYER OV - OVEN CONNECTION. ALLOW ISOLATOR IF ELECTRIC | 盟 CLEANERS OUTLET. GPO MOUNTED IN CUPBOARD FLAME PROOF WP - WEATHER PROOF HD - HAND DRYER RTE - REQUEST TO EXIT

- MOUNTED @1100 FOR WASHER AND DRYER

BWU - BOILING WATER UNIT COMPLETE WITH TIMER

LIGHT FITTINGS

A APARTMENT 12W RECESSED LED 3000K LINEALITE ALTO APARTMENT 12W RECESSED LED 3000K LINEALITE ALTO WITH IP44 MINIMUM 盔 FOR BATHROOM BALCONY 12W 4000K SURFACE MTD LED IP65 LINEALITE W100-HO-CUS PASSAGE 12W RECESSED LED 3000K LINEALITE ALTO DRIVE WAY 100W LED SURFACE MOUNTED WADCO METROLINE MINI CANOPY LIGHT 17W SURFACE MOUNTED LINEALITE BENSON SM 10W GARDEN FLOOR LIGHT. SPECIFICATION & DETAILS TO BE CONFIRMED BY CLIENT AND 10W PENDANT LIGHT FITTING SPECIFICATION & DETAILS TO BE CONFIRMED BY CLIENT AND ARCHITECT

21W LED SURFACE MOUNTED WEATHER PROOF LIGHT. WADCO ALTEC LED

42W LED SURFACE MOUNTED WEATHER PROOF LIGHT. WADCO ALTEC LED

7W PER/MTR ENCAPSULATED LED STRIP LIGHT, 3000K SWITCHED FROM

ADJACENT ABOVE BENCH GPO. LINEALITE BESPOKE. REFER ARCH

COMMUNICATIONS

JOINERY DETAILS FOR EXACT MOUNTING DETAILS.

MASTER INTERCOM PANEL

INTERCOM HANDSET AUDIO\VISUAL COLOUR 7"

PAY TV OUTLET - 'F' TYPE CONNECTOR

TELEVISION OUTLET. 75 OHM TV SYSTEM

LOCAL DISTRIBUTOR IN WARDROBE. SUPPLY & INSTALL CONDUIT IN CEILING SPACE C/W DRAW WIRE (MAX 50M) FROM COMMS RISER TO HERE WITH BLANK PLATE CAT6 FROM RISER BD TO RJ45 WALL PLATE FOR PHONE LINE. ALL APARTMENT RJ45 OUTLETS TO BE WIRED BACK TO WARDROBE (\W RJ45 WALL PLATES. REFER DETAILS. CONFIRM IF DEVELOPMENT IS WITHIN A CURRENT NBN SERVICE ZONE PRIOR TO STARTING WORKS. IF SO NBN ZONE, THIS IS LOCATION FOR FIBRE EQUIPMENT. SUPPLY AND INSTALL DGPO, BLANK

PLATE, 2xRJ45 (WIRED TO FIELD VOICE & DATA OUTLET) & CONDUITS\DRAW

WIRE IN ACCORDANCE WITH NBN REQUIREMENTS. PROVIDE ACCESS PANELS

WITHIN PUBLIC AREAS AS REQUIRED. SINGLE RJ45 CAT 6 CABLING STAR WIRED. FOR NBN SITE, WALL PLATE\WIRE FROM LD LOCATION TO FIELD OUTLET AS PER PLAN

DOUBLE RJ45 CAT 6 CABLING STAR WIRED. FOR NBN SITE, WALL PLATE\WIRE FROM LD LOCATION TO FIELD OUTLET AS PER PLAN

NBN CO.'S OUTDOOR NETWORK TERMINATION DEVICE FOR BUILDING SERVICES NBN CO.'s CABLE TRANSITION LOCATION

SUPPLY\INSTALL 2xDGPO, 1xRJ45 CAT6, 1xTV 75 OHM "F" TYPE & 1xPAY TV "F" TYPE. EXACT LOCATION\HEIGHT REFER ARCHITECTS DRAWINGS. CO-ORDINATE ON SITE.

LIGHTING CONTROL

15A ONE WAY LIGHT SWITCH

15A TWO WAY LIGHT SWITCH

15A SWITCH WIRED TO EXH GPO IN C-SPACE NEAR ACCESS PANEL DOUBLE POLE SWITCH WIRED TO EXH GPO IN C-SPACE NEAR

ACCESS PANEL. LOCATIONS OF BOTH SWITCHES WIRED TO EXH GPO.

360 DEG B.E.G. SENSOR PD3 D4-C SPACING TO SUIT AREA

B.E.G. SENSOR PD3 D4-C SPACING TO SUIT AREA

EMERGENCY LIGHTS & EXIT SIGNS

1x28W T5 SURFACE MOUNTED WEATHER PROOF LIGHT FITTING C/W EMERGENCY BATTERY PAK. PIERLITE CAT No. PWP128M C0:D63 C90:C50 2x28W T5 SURFACE MOUNTED WEATHER PROOF LIGHT FITTING C/W

② 2W MAINTAINED EXIT LIGHT PICTORIAL 24M VIEWING DIST. PIERLITE (AT (♣**अ-)** (1.25 / (90: D1.25 / (

3W NON MAINTAINED RECESSED EMERGENCY LUMINAIRE, WHITE BODY

EMERGENCY BATTERY PAK. PIERLITE CAT No.PWP228M C0:D50/C90:D50

NOTE

THE FITTINGS AS SPECIFIED ARE THE CLIENTS AND MacCORMACK REQUIREMENTS, ALTERNATIVES NOT ACCEPTED

FINISH COND25 C90ND25 PIERLITE FIREFLY LED.

POWER

DB DISTRIBUTION BOARD. IF LOCATED NEAR\BEHIND A DOOR, BUILDER TO PROVIDE A LOCK TO THIS DOOR.

10A 240V DOUBLE GPO.

10A 240V SINGLE GPO.

10A 240V DOUBLE GPO, C/W EXTRA SWITCH FOR UNDER KITCHEN JOINERY LIGHT FITTINGS OR BATHROOM 10A 240V SINGLE GPO IN CEILING FOR BOOSTER FAN (FAN BY OTHERS) WIRE FROM FAN TO 1 or 2 SINGLE POLE

10A 240V DOUBLE GPO. C\W DUAL USB CHARGER

SINGLE THROW SWITCH MECH TO BENCH TOP DGPO

1Φ 240V DIRECT CONNECT TO EQUIPMENT HWS - DIRECT CONNECTION TO HOT WATER SERVICE

30 415V DIRECT CONNECT TO EQUIPMENT

10 DIRECT CONNECT OUTLET WITH ISOLATOR (IF ELECTRIC C-TOP, ISOLATE AND GPO CENTRE SWITCH OR DEDICATE SWITCH)

1Φ DIRECT CONNECT SOCKET OUTLET WITH ISOLATOR

3Φ DIRECT CONNECT SOCKET OUTLET WITH ISOLATOR

3¢ DIRECT CONNECT OUTLET WITH ISOLATOR

GPO IN CEILING SPACE FOR EXH GPO NEAR ACCESS. PANEL SWITCHED TO 1P OR 2P SWITCHES

KITCHEN SUPPLY\INSTALL 1x25A DIRECT WIRED FOR OVEN, 1xGPO IN OVERHEAD JOINERY FOR RANGEHOOD, 1xGPO UNDERBENCH FOR COOKTOP. 2xDGPO ABOVE BENCH (INLC CENTRE SW FOR JOINERY LIGHTING), 1xDGPO\USB ABOVE BENCH, 1xGPO FOR FRIDGE & 1xGPO UNDER BENCH FOR DISHWASHER. UNDER JOINERY LED STRIP LIGHT 7W\M. EXACT LOCATION\HEIGHT REFER ARCHITECTS DRAWINGS CO-ORDINATE ON SITE. FOR ISLAND BENCH WITH DISHWASHER ALLOW TO CHASE IN SLAB.

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SMOKE DETECTOR/ALARM TO AS 3786: MAINS POWER WITH BATTERY BACKUP. MODEL CLIPSAL 755PSMA INTERCONNECTED ALL DETECTORS WITHIN SAME UNIT. ALLOW AT A RATE 1 PER 15M MAX FROM BEDROOM DOOR

SECURITY LEGEND

PROXY CARD READER - ALLOW PADDE STRIKE

KEY PAD

ES ELECTRIC STRIKE MECHANISM - PADDE RELEASE ON GFA LOCKWOOD ELECTRIC MORTICE LOCK RELEASE ON GFA

MAGNETIC LOCK-SECURITRON SHEAR LOCK DOUBLE SWING DOORS. C\W RTE BUTTON RELEASE ON GFA

RS

BG

BREAK GLASS

REED SWITCH

CONCEPT 4000 OR PROTEGE SE SECURITY PANEL WITH EXPANDER CARDS C\W 4 X DGPO, PHONE LINE, PC AND MONITOR OR AS REQUIRED.

FLUSH MOUNTED VANDAL DOME CAMERA, CAMTRON CTMV-5341F. (LIFTS)

SURFACE MOUNTED VANDAL DOME CAMERA, TRUVUE TVD55W42AP.

RECESSED MINI DOME CAMERA, TRUVUE TPD55W42P. DIGITAL VIDEO RECORDERS ALLOW FOR 31 DAYS RECORDING

C\W 2 X DGPO

EXTERNAL INTERNAL SCREAMER

ELECTRICAL USAGE LEGRAND SCS CONTROL TO EACH APARTMENT

(LOCATED IN MANAGERS OFFICE) 16 CHANNEL HIKVISION DS-8016HDIS

OTHER (ALLOW PER APT IF IN LATEST SMP REPORT) MASTER KILL SWITCH AT DOOR ENTRY TO TURN OFF ALL LIGHTS & AC

in whole or part or amended without the written consent of the consulting engineers

commencing any work or preparing shop drawings. ENERGY METER 3.5" DISPLAY LINK TO APARTMENT DB TO SHOW CURREN'

1 VINE STREET

scale

ELECTRICAL SERVICES

designed ASG	checked ASG
drawn	date MAY 2017

issue T 1

of **9**

drawing

number

TENDER ISSUE TDO 18.05.17 PRELIMINARY ISSUE

MacCORMACK ASSOCIATES CONSULTANTS Pty. Ltd

CONSULTING ENGINEERS AND PROJECT MANAGERS

MECHANICAL ELECTRICAL HYDRAULIC AND FIRE SERVICES

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Web-

maccormack.com.au

issue rev. description



date

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Contractors must locate all air registers pipework outlets, light fittings, power outlets, sprinkler heads, etc. from the Architects reflected ceiling plans and other detailed

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project title

HEIDELBERG, VIC 3084

LEGEND AND NOTES

drawing title

designed ASG	checked ASG
drawn	date MAY 2017
job number	939

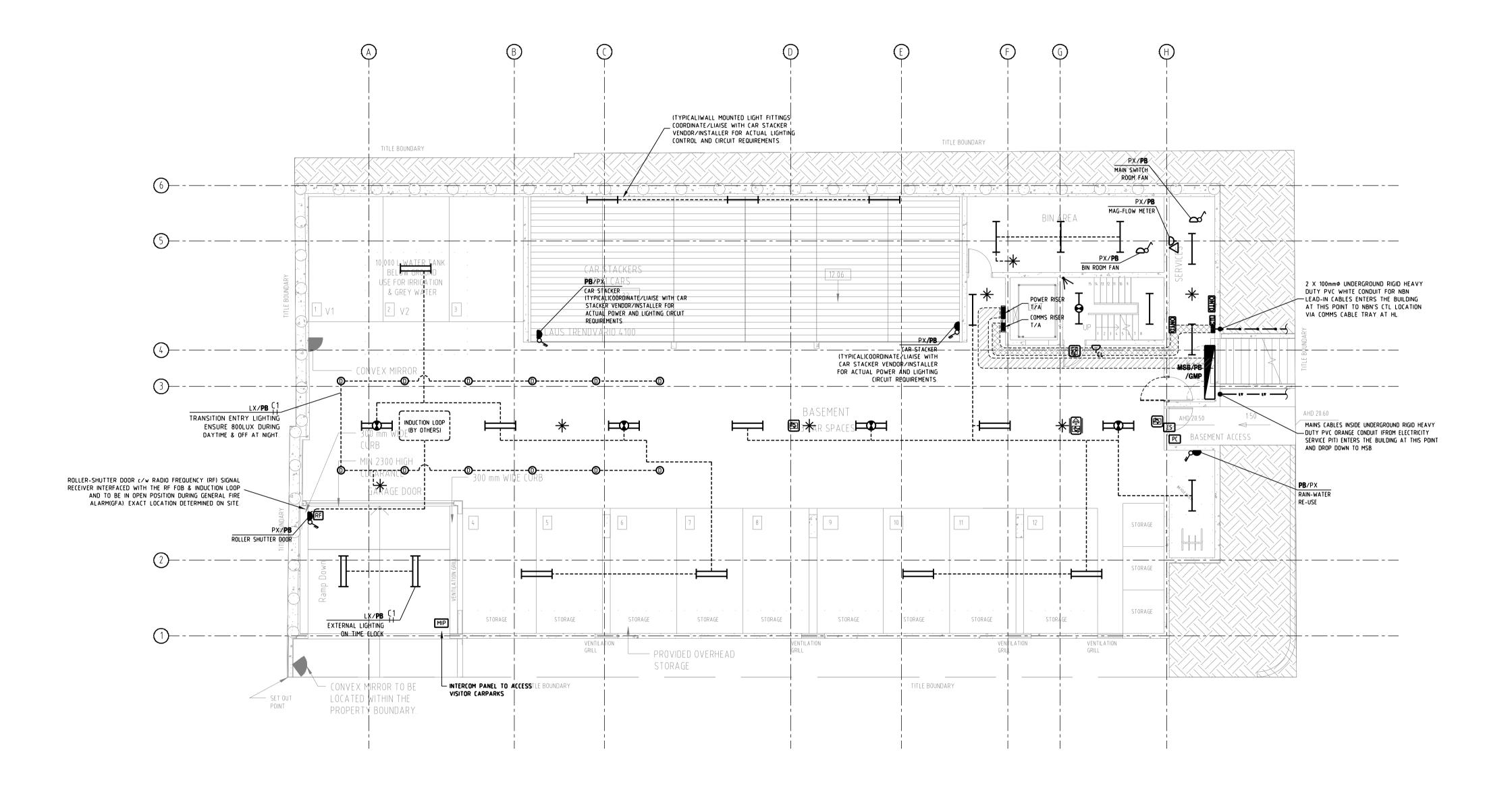
drawing

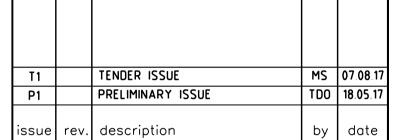
NOTES:

1. MOTION DETECTORS OR OTHER CONTROL DEVICES SHALL NOT OPERATE CAR PARK LIGHTING FOR AN AREA OF MORE

THAN 250m² FOR A SPACE OF NOT MORE THAN 2000m², OR 1000m² FOR A SPACE OF MORE THAN 2000m².

2. ELECTRICAL CONTRACTOR SHALL ENSURE THAT THE SUM OF THE LEAKAGE CURRENTS OF ELECTRICAL EQUIPMENT (SUCH AS LIGHTS AND SWITCHED SOCKET OUTLETS - FINAL SUB-CIRCUIT) ON THE LOAD SIDE OF AN RCD BE LESS THAN 50% OF THE RATED RESIDUAL CURRENT. RCD'S NORMALLY OPERATE AT ANY VALUE OF RESIDUAL CURRENT IN EXCESS OF 50% OF IT'S RATED RESIDUAL CURRENT. ELECTRICAL CONTRACTOR SHALL ENSURE THAT THE LOADING OF THE FINAL SUB-CIRCUITS BE SUCH THAT THE LEAKAGE CURRENT DOES NOT EXCEED ONE-THIRD OF THE TRIPPING







ABN 79 978 772 380

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Architects reflected ceiling plans and other detailed drawings.

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project title

1 VINE STREET HEIDELBERG, VIC 3084

service

issue

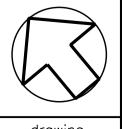
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ELECTRICAL SERVICES

BASEMENT LEVEL
LIGHTING, POWER & COMMS
LAYOUT
drawing title

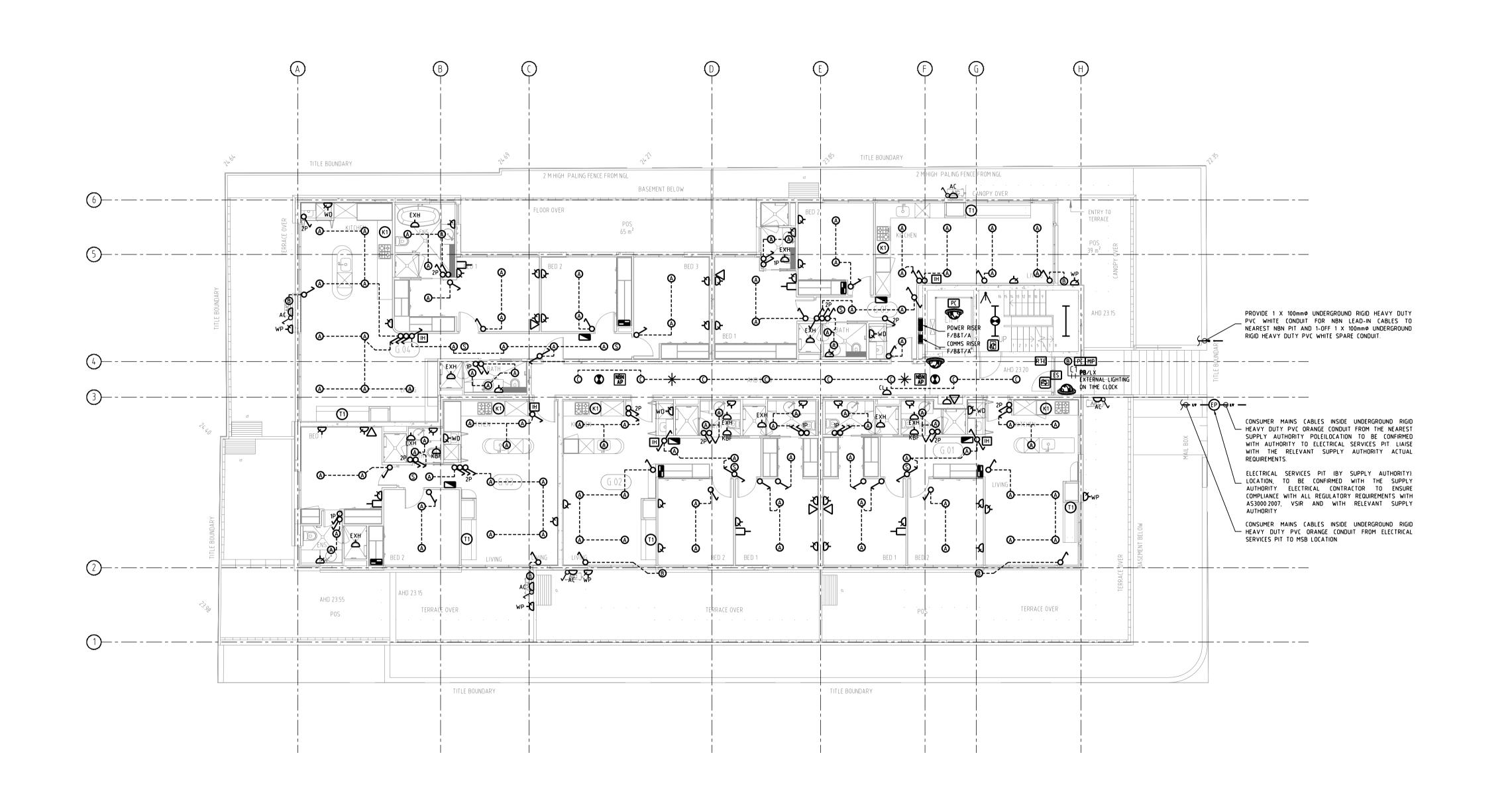
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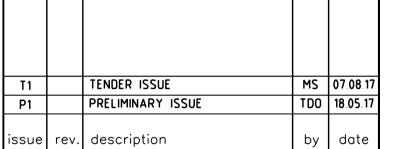
2 of 9

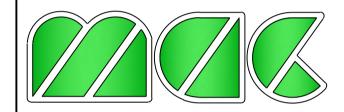


1939 drawing number

T1 **E2**







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project title

1 VINE STREET HEIDELBERG, VIC 3084

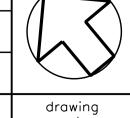
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ELECTRICAL SERVICES

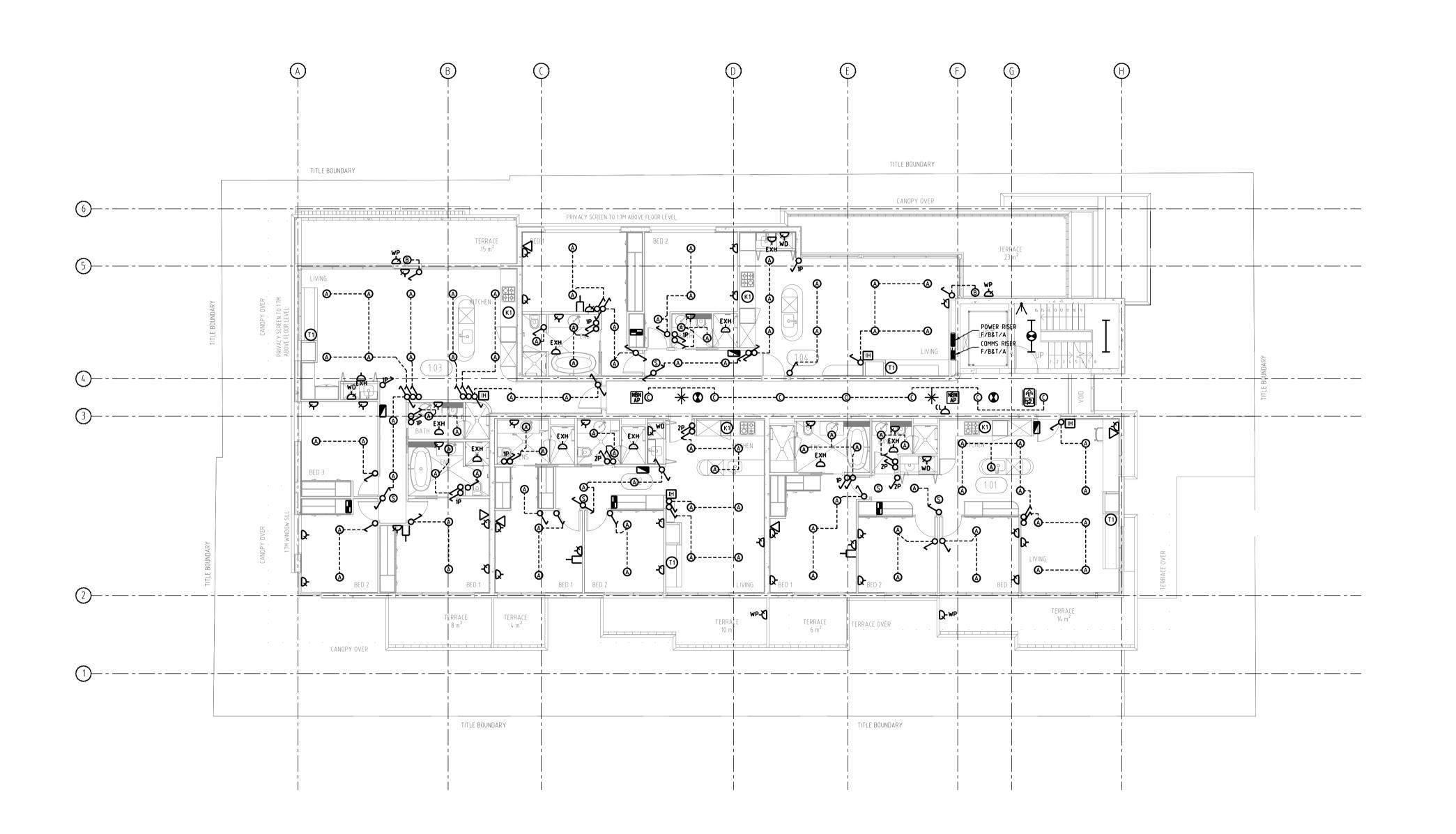
GROUND FLOOR LIGHTING, POWER & COMMS LAYOUT drawing title

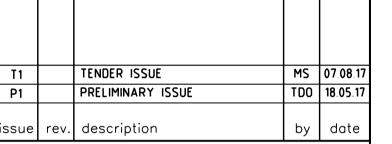
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job number	19	39			

3 of 9



number T1 **E3** drawing







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Do not scale All dimensions to be checked on site.

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project title

1 VINE STREET HEIDELBERG, VIC 3084

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issue

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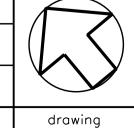
ELECTRICAL SERVICES

FIRST FLOOR
LIGHTING, POWER & COMMS
LAYOUT
drawing title

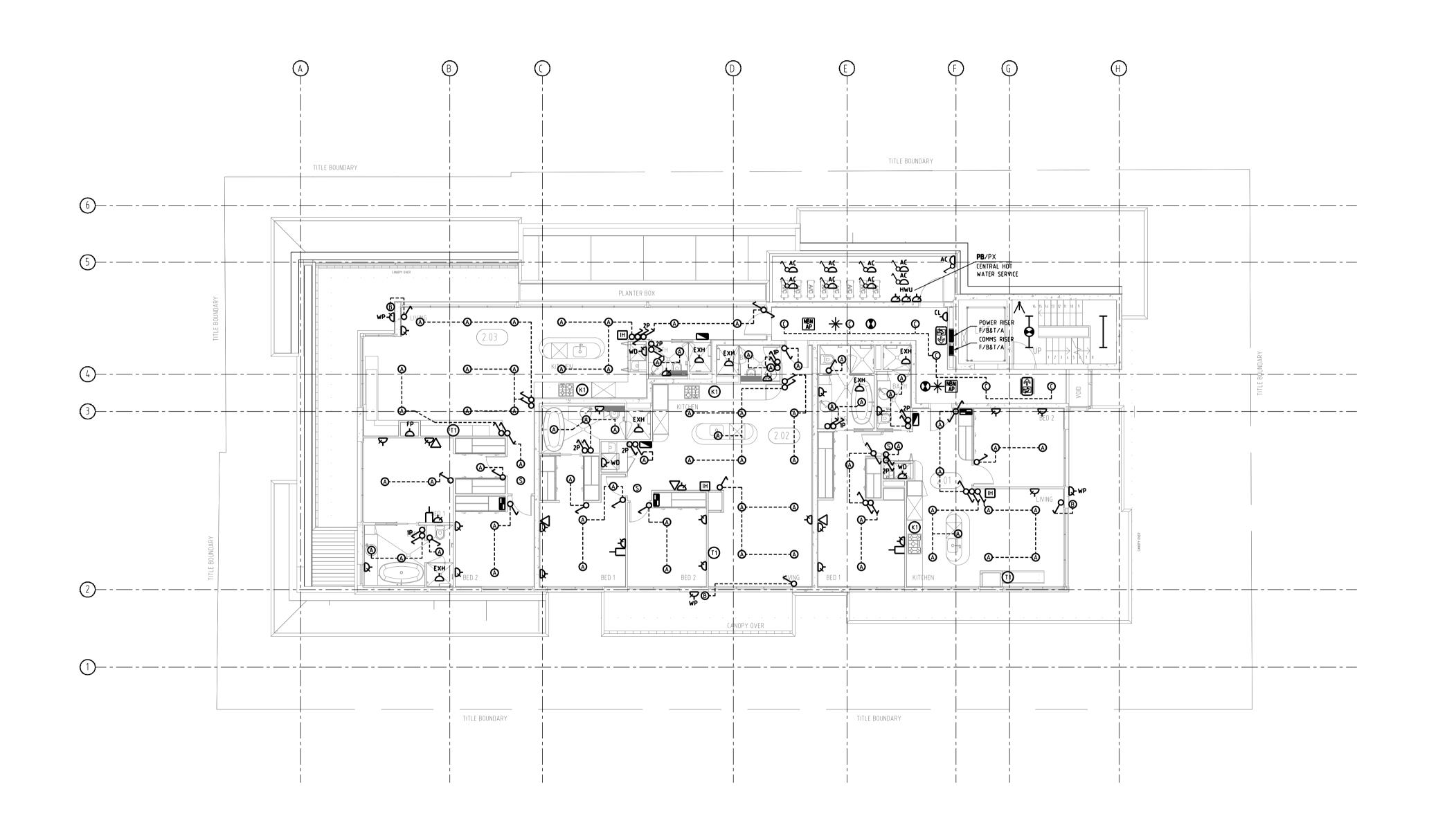
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job number 1	939

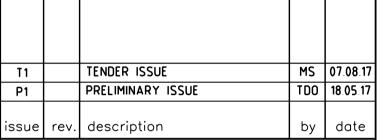
T 1

4 of 9



drawing number







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drawings.

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ELECTRICAL SERVICES

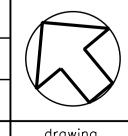
SECOND FLOOR
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LAYOUT
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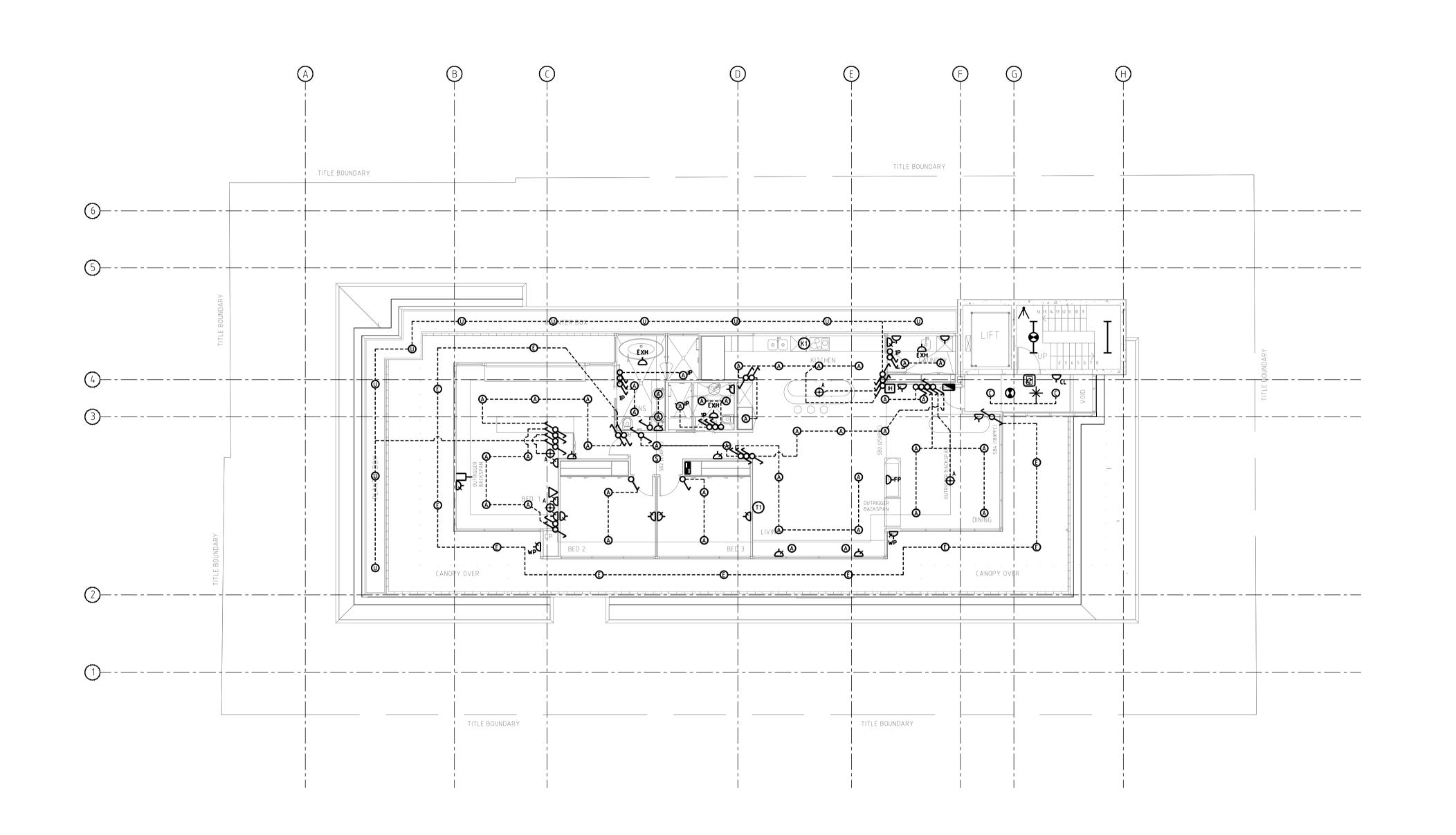
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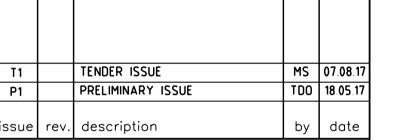
T 1

5 of 9



drawing number







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1 VINE STREET HEIDELBERG, VIC 3084

ELECTRICAL SERVICES

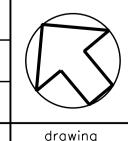
THIRD FLOOR LIGHTING, POWER & COMMS LAYOUT drawing title

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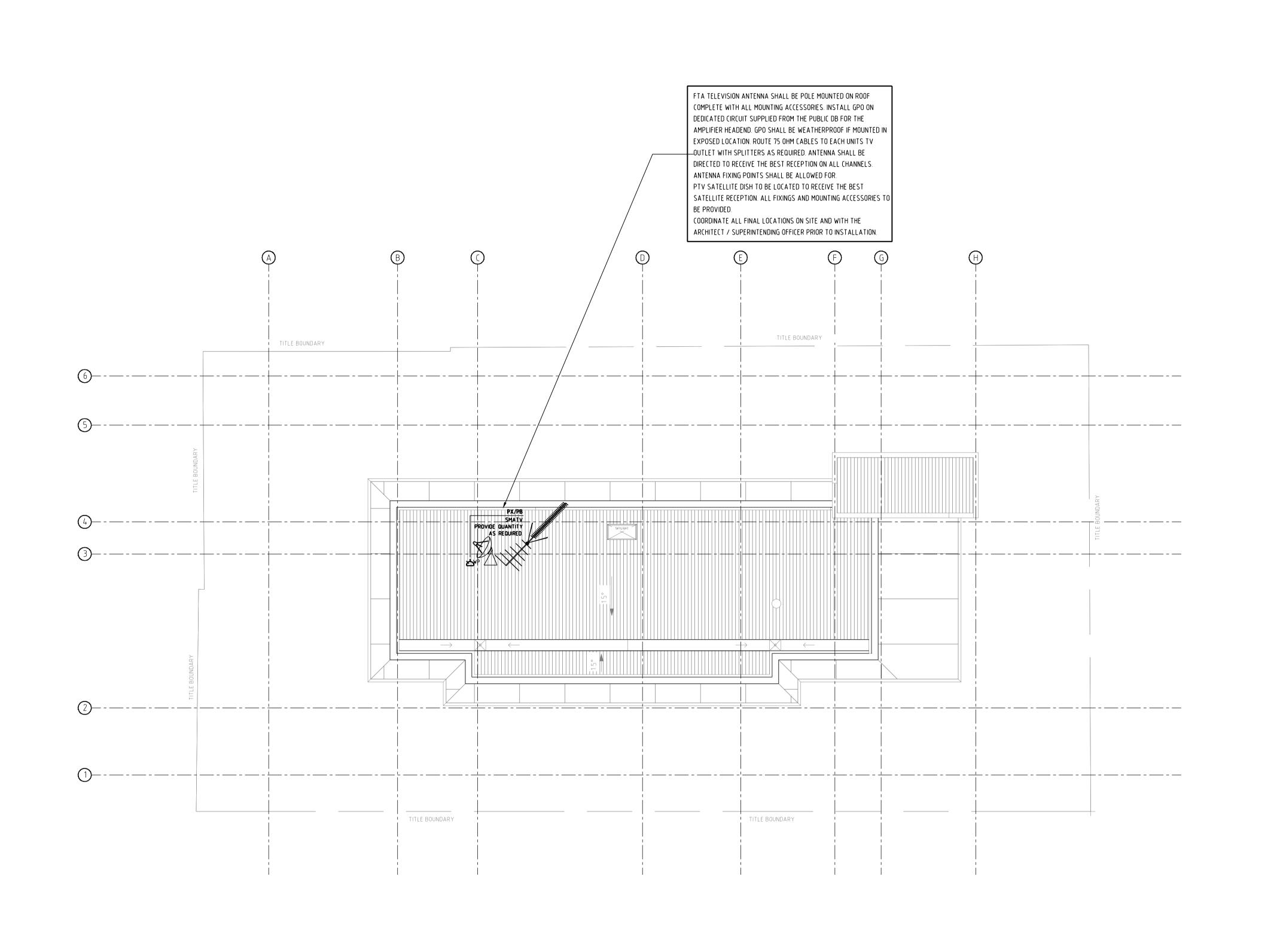
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T 1

6 of 9



drawing



T1 TENDER ISSUE MS 07.08.17
P1 PRELIMINARY ISSUE TD0 18.05.17
issue rev. description by date



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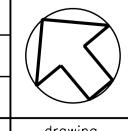
ELECTRICAL SERVICES

ROOF PLAN
LIGHTING, POWER & COMMS
LAYOUT
drawing title

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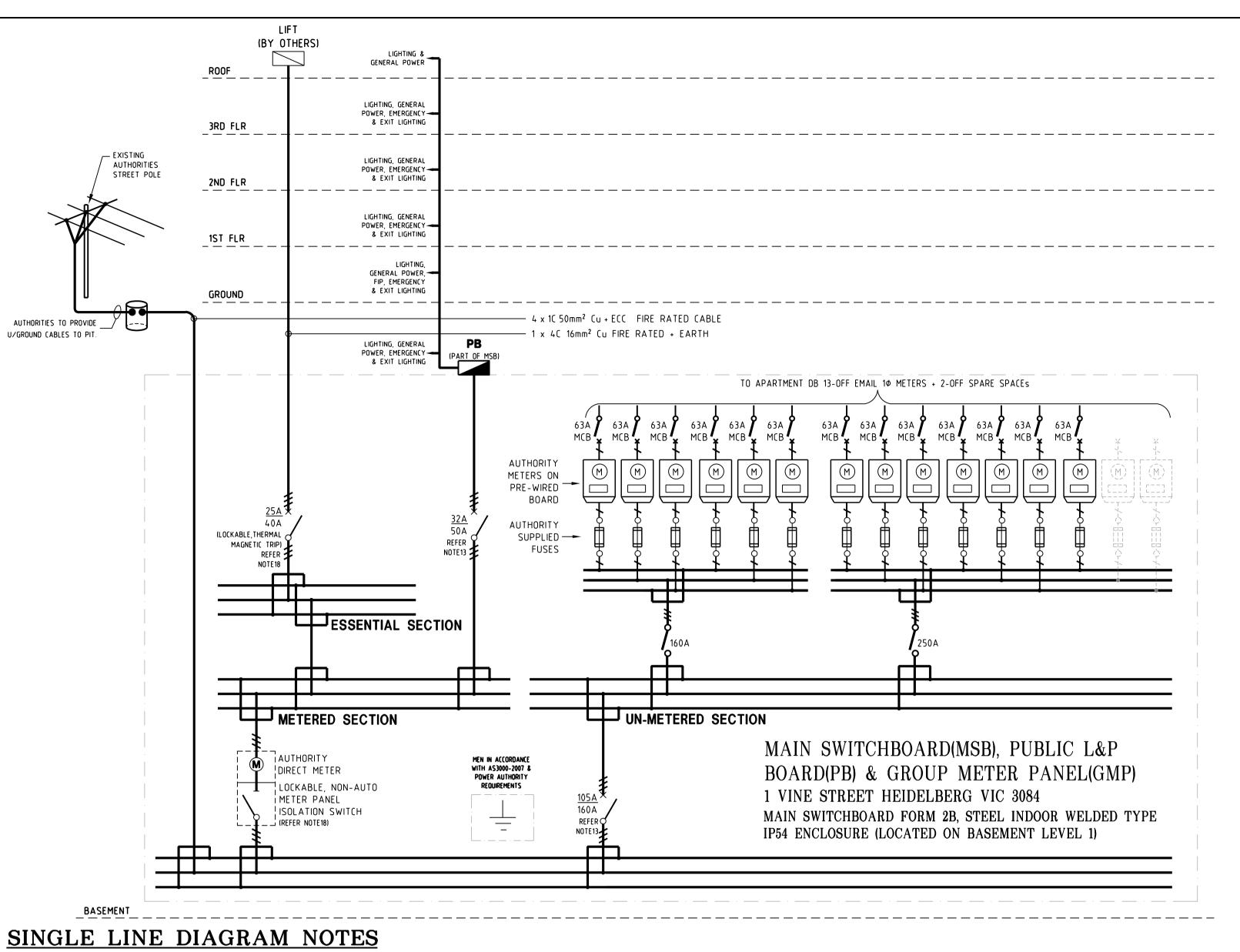
7 of 9

drawing



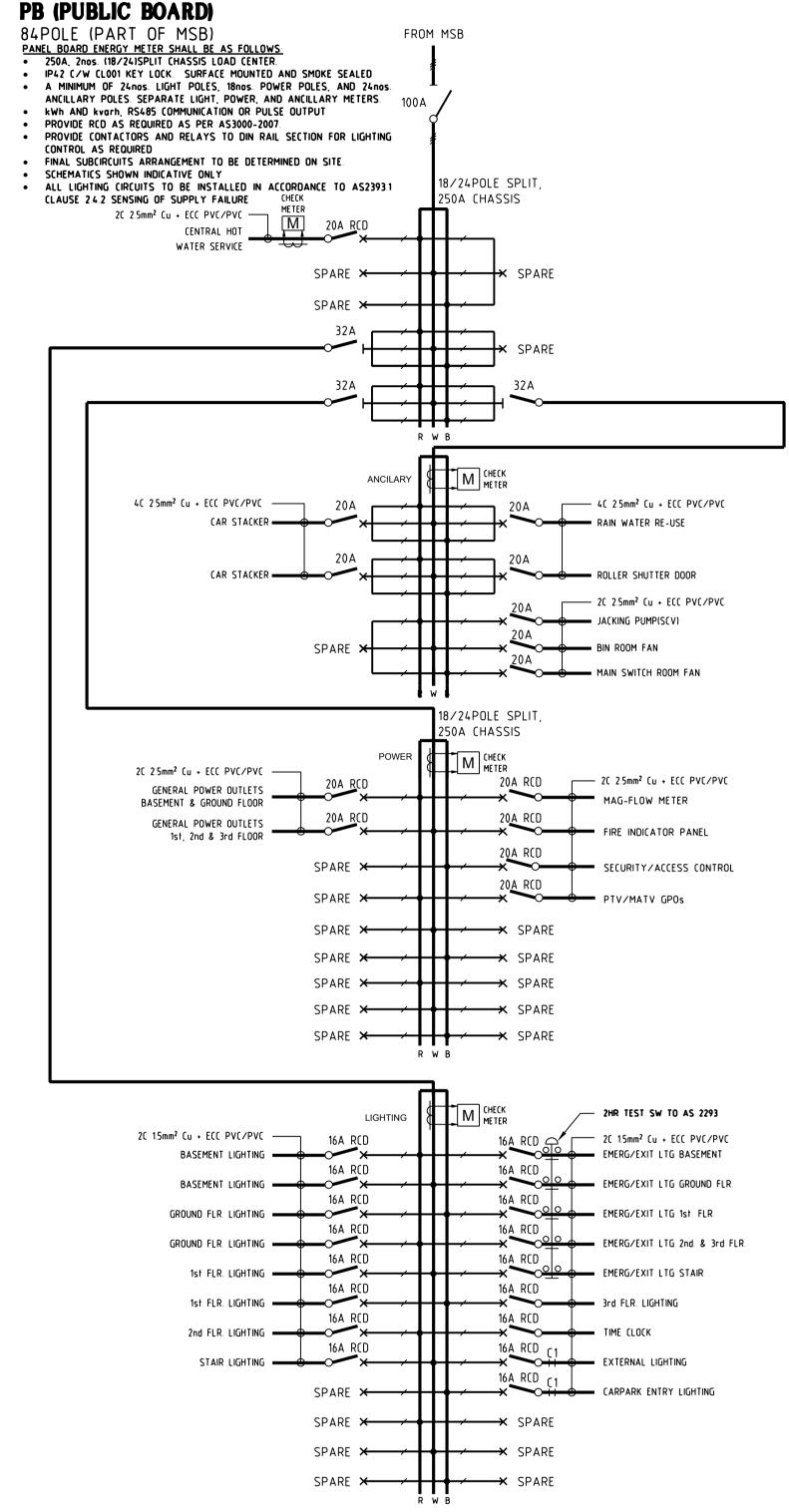
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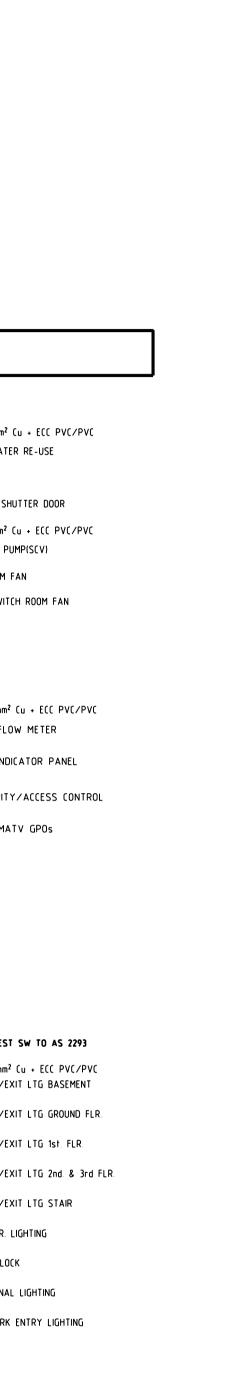
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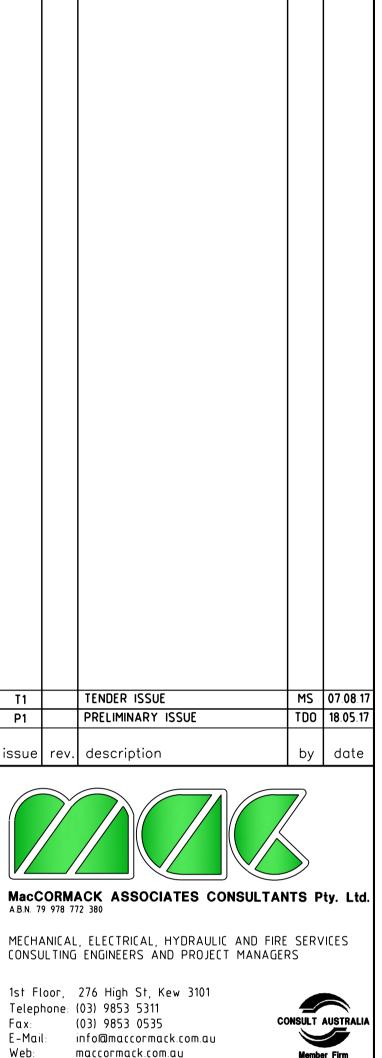


- 1. ELECTRICAL CONTRACTOR TO CONFIRM A/C / OTHER POWER SUPPLIES & 9. LIGHTING CONTROL SYSTEM CIRCUITS VIA CONTACTORS, RELAYS ETC SHALL BE 15. MCCBs SHALL BE 0F THE SAME MANUFACTURE THROUGHOUT THE INSTALLATION PROVIDE CIRCUIT BREAKERS AS REQUIRED FOR CONNECTION BY THE OTHER SERVICES CONTRACTOR.
- ALL CIRCUIT BREAKERS (MCB & MCCB) SHALL HAVE ELECTRONIC TRIP UNIT AND ADJUSTABLE SETTINGS WHERE INDICATED. ALL MCB AND MCCB SHALL COMPLY WITH AS/NZS 60898:2004, AS/NZS 60947.2 AND AS/NZS 3000:2007.
- SUBMIT ALL SWITCHBOARD SHOP DRAWINGS INCLUDING SCHEMATIC DIAGRAM AND DISCRIMINATION STUDIES FOR APPROVAL PRIOR TO CONSTRUCTION. COORDINATE WITH SUPPLY AUTHORITIES FOR MAXIMUM PROSPECTIVE FAULT
- CURRENT BEFORE COMMENCING MANUFACTURE OF SWITCHBOARDS. 5. ALL MINIATURE CIRCUIT BREAKERS FOR MOTOR SUPPLIES SHALL BE C/W D-TYPE CURVE.
- PROVIDE TYPE S RCDs AND TIME DELAYED IN ORDER TO DISCRIMINATE WITH RCDs AT THE FINAL DISTRIBUTION BOARD. FOR HIGH CURRENT APPLICATIONS PROVIDE MCCB WITH SENSITIVE EARTH FAULT (E/F) RELAY AS AN 13. ADJUSTABLE CIRCUIT BREAKERS ELECTRICAL CONTRACTOR TO COORDINATE TRIP 17. ENSURE ADEQUATE SUPPORT IS PROVIDED FOR ALL WALL MOUNTED. ALTERNATIVE.
- PROVIDE CIRCUIT BREAKERS AS REQUIRED ON ALL NEW SWITCHBOARDS PLUS 25% APPROPRIATELY RATED SPARE.
- EXTERNAL LIGHTING. ALL GENERAL PURPOSE OUTLETS AND LIGHTING CIRCUIT UP TO 20 AMP TO BE PROTECTED VIA COMBINED SINGLE POLE RCD MCB.

- MOUNTED WITHIN THE SWITCHBOARD IN A DEDICATED DIN RAIL SECTION FOR CONTROL OF ALL LIGHTING.
- 10. SWITCHBOARD-MOUNTED 30mA RCDs SHALL BE PROVIDED TO ALL GENERAL POWER OUTLETS & LIGHTING CIRCUITS. EXCEPT FOR POWER OUTLETS WHICH PERMANENTLY CONNECTED APPLIANCES SUCH AS ELECTRIC OVENS, HOT WATER UNITS, A/C UNITS AND SMOKE ALARMS.
- ONE RCD SHALL PROTECT NO MORE THAN 3 CIRCUITS 12. ALL MAIN SWITCHBOARDS (MSB) SHALL REQUIRE AN APPROVAL FROM A LICENSED ELECTRICAL INSPECTOR (LEI) AND SUPPLY AUTHORITY COMPLIANCE OFFICE PRIOR TO MANUFACTURING. CONSTRUCTION OF MSB SHALL BE IN ACCORDANCE WITH CURRENT AS3000, RELEVANT SERVICE INSTALLATION RULES AND ELECTRICITY SAFETY (INSTALLATION) RULES. TYPICAL
- SETTINGS OF CIRCUIT BREAKERS ON SITE SO ALLOCATED MAXIMUM DEMAND IS CONTROLLED AND NOT EXCEED THE SUPPLY CAPACITY IN CONFORMANCE TO THE 18. CIRCUIT BREAKERS / SWITCHES TO BE LOCKABLE IN 'ON' & 'OFF' POSITION. POWER AUTHORITIES CONTRACT AGREEMENT. TYPICAL
- CIRCUITS VIA CONTACTORS MOUNTED ON SWITCHBOARD FOR CONTROL OF 14. CONTRACTOR TO ALLOW FOR PRESCRIBED AND NON-PRESCRIBED ELECTRICAL INSPECTION. PROVIDE DISCRIMINATION OF PROTECTIVE DEVICES IN ACCORDANCE TO AS3000 SECTION 2.
- AND DESIGNED TO OPERATE AT THE PROSPECTIVE FAULT LEVELS SHOWN ON THE DRAWING AND/OR SPECIFICATION CIRCUIT BREAKERS SHALL BE OF THE CURRENT LIMITING DESIGN FITTTED WITH THERMAL MAGNETIC AND/OR ELECTRONIC TRIP MECHANISMS.
- SHALL BE LABELLED "NOT SAFETY SWITCH PROTECTED" OR FOR CIRCUITS OF 16. THE CIRCUIT BREAKERS SHALL BE CHOSEN TO PROVIDE SELECTIVITY AT THE PROSPECTIVE FAULT LEVELS SPECIFIED WITHIN THE INSTALLATION. CASCADE PROTECTION OF CIRCUIT BREAKERS SHALL BE ACCEPTABLE WHERE IT MEETS THE SELECTIVITY REQUIREMENTS. MCCBs SHALL PROVIDE POSITIVE CONTACT INDICATION VIA THE TOGGLE MECHANISMS. ALL THREE POSITIONS ON, OFF AND TRIP SHALL BE CLEARLY AND RELIABLY INDICATED ON THE MCCB FASCIA. THE NEUTRAL (N) SWITCHING POLE SHALL BE AN EARLY-MAKE-LATE-BREAK DESIGN, SUCH THAT ABNORMAL TRANSIENT VOLTAGES CANNOT OCCUR BETWEEN PHASE AND NEUTRAL LINES DURING OPENING AND CLOSING OPERATIONS.
 - SWITCHBOARDS, DISTRIBUTION BOARDS, METER PANELS ETC. LABELLED 'ESSENTIAL SERVICES', 'IN EVENT OF FIRE, DO NOT TURN OFF' & 'TO BE OPERATED BY AUTHORISED PERSONNEL ONLY'.











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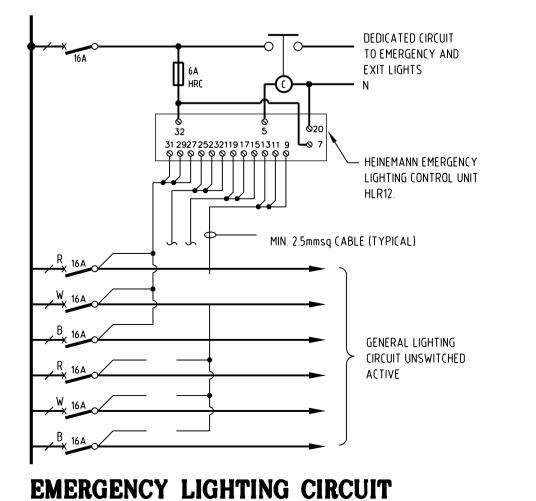
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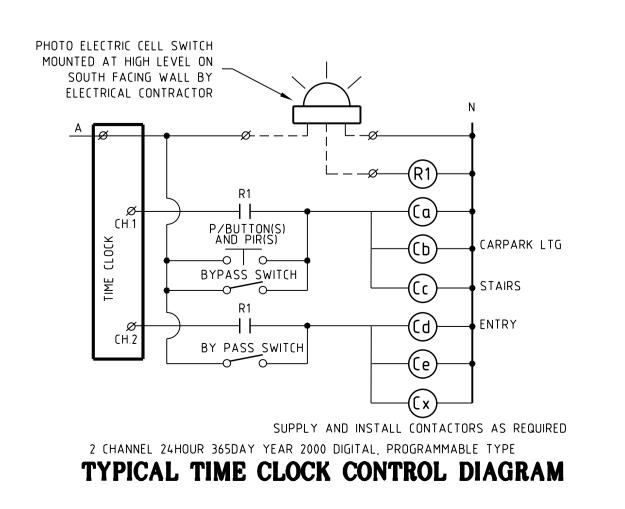
1 VINE STREET HEIDELBERG, VIC 3084

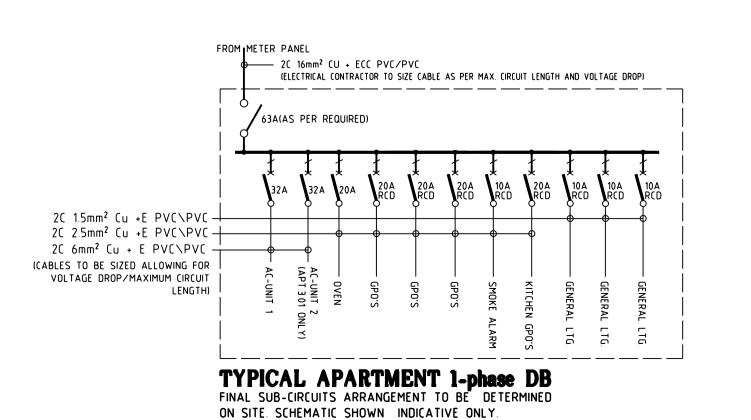
ELECTRICAL SERVICES

SCHEMATICS DETAIL LAYOUT SHEET 1 of 2 drawing title

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drawing 8	of 9	L(







SECURITY/ACCESS CONTROL SYSTEM THE INTEGRATED SECURITY/ACCESS CONTROL SYSTEM SHALL BE INTEGRITI BY INNER RANGE

THE INSTALLATION COMPANY MUST HAVE AT LEAST ONE ACCREDITED INTEGRITI TECHNICIAN RESPONSIBLE FOR THE INSTALLATION, COMMISSIONING AND CUSTOMER TRAINING ACCESS CONTROL TO NOMINATED LOCATIONS SHALL BE PROVIDED USING INTEGRITI INTELLIGENT TWO DOOR CONTROLLERS (ILAM), CONNECTED VIA THE INTEGRITI ENCRYPTED LAN TO THE MAIN CONTROL PANEL. THE MAIN CONTROL PANEL AND DOOR CONTROLLERS SHALL BE HOUSED IN LARGE ENCLOSURES WITH RELEVANT GEAR PLATES. EACH INTEGRITI POWERED CONTROLLER SHALL HAVE A DEDICATED 16VAC 40VA TRANSFORMER AND 7.0AH STANDBY BATTERY. ALL ENCLOSURES SHALL CONTAIN TAMPER SWITCHES WHICH ARE TO BE PROGRAMMED FOR 24HR ACTIVATION.

PROXIMITY CARD READERS SHALL BE HID ICLASS READERS. UNIT OWNER ACCESS TO THE CAR PARK SHALL BE MADE USING PROKEY WIEGAND DATA TRANSMITTERS(Ino. FOR CAR STACKER'S SLIDING DOOR DOOR) WITH INTEGRATED HID ICLASS PROXIMITY TAG (PART NUMBER CSD-PROKEY2-IC). THE PROKEY RECEIVER SHALL BE CSD-PROKEY-RXWO AN IP65 RATED ENCLOSURE AND BE MOUNTED IN A LOCATION WHICH PROVIDES MAXIMUM RE RANGE TO DRIVERS BEFORE THEY ENTER THE CAR PARK. THE INTEGRATED HID ICLASS PROXIMITY TAG SHALL ALLOW TENANTS ENTRY INTO ALL OTHER ACCESS CONTROLLED DOORS USING HID ICLASS PROXIMITY CARD READERS

ALLOW FOR 2 X CSD-PROKEY2-IC INTEGRATED TRANSMITTERS PER 1 & 2 BEDROOMS APARTMENTS. 3 X CSD-PROKEY2-IC INTEGRATED TRANSMITTERS PER 2 + STUDY & 3 BEDROOMS APARTMENTS AND 15 FOR BODY CORPORATE

ELECTROMECHANICAL DOOR LOCKING SHALL BE PERFORMED USING PADDE ES9000 PRE-LOAD ELECTRIC DOOR STRIKES. ELECTROMECHANICAL LOCKING SHALL BE PERFORMED USING PADDE Z8-HR MONITORED MAG LOCKS. ALL MAG LOCK DOORS SHALL ALSO BE FITTED WITH AN INTERNAL EGRESS BUTTON AND DOOR REQUEST TO RELEASE BUTTON.

THE SECURITY SOFTWARE MANAGEMENT SUITE SHALL BE A WINDOWS BASED, CLIENT/SERVER APPLICATION PROVIDING A POWERFUL INTUITIVE INTERFACE TO THE SECURITY HARDWARE AND COMMUNICATING WITH SYSTEM CONTROLLERS OVER ETHERNET. ANY AND ALL WORKSTATION LICENSES SHALL BE CONCURRENT AND NOT LOCKED TO SPECIFIC WORKSTATIONS OR PC'S.

THE WINNING INSTALLATION COMPANY MUST HAVE AT LEAST ONE ACCREDITED TECHNICIAN RESPONSIBLE FOR THE INSTALLATION, COMMISSIONING AND CUSTOMER TRAINING

THE INSTALLER IS TO PROVIDE A MINIMUM OF TWO BY FOUR HOUR SESSIONS FOR CUSTOMER TRAINING ON ALL ASPECTS OF THE SYSTEM BOTH HARDWARE AND SOFTWARE. THIS SHALL INCLUDE MONITORING AND CONTROL USING GRAPHICS MAPS, REPORT GENERATION, ADDING, DELETING AND REPLACEMENT OF CARDS FOR USERS AND THE DESIGN AND IMPLEMENTATION OF PHOTO ID CARD DESIGNS INCLUDING CUSTOM FIELDS. TRAINING SCHEDULES TO BE ARRANGED AT MUTUALLY SUITABLE TIMES

THE SECURITY INSTALLER SHALL LIAISE WITH THE FIRE SYSTEM INTEGRATOR TO RECEIVE A RELAY OUTPUT FROM THE FIRE ALARM SYSTEM AND CONNECT TO AN INPUT ON THE SECURITY SYSTEM SO THAT IN THE EVENT OF A FIRE ALARM ACTIVATION, NOMINATED DOORS SHALL AUTOMATICALLY UNLOCK. THE UNLOCK COMMAND SHALL STAY IN FORCE UNTIL THE FIRE ALARM IS RESET.

GENERAL NOTES:

ALLOW TO PROVIDE NBN COMMUNICATIONS' PATHWAYS USING OPTIONS (AS PER NBN BUILDING DESIGN GUIDE) AS APPROPRIATE. CABLING FROM THE LIVING UNIT TO THE TELECOMMUNICATIONS RISER/CUPBOARD REQUIRES A MINIMUM OF A P23mm INSIDE DIAMETER RIGID WHITE COMMUNICATION CONDUIT WITH A DRAW STRING FROM THE TELECOMMUNICATIONS RISER OR CLOSET LOCATION TO EACH NTD LOCATION WITHIN A PREMISE. NO SECTION OF CONDUIT SHALL BE LONGER THAN 50 METRES BETWEEN PULL/DRAW POINTS AND CONTAIN THE EQUIVALENT OF NO MORE THAN THREE 90° 300MM RADIUS BENDS. CONDUITS (AN BE SURFACE MOUNTED IN COMMON AREAS OR CAST 'IN SLAB"

VOICE CABLE SYSTEM

- ALL TELEPHONE WIRING TO BE AUSTEL REQUIREMENTS AND CARRIED
- OUT BY LICENSED TRADESMAN. REFER FLOOR PLAN DRAWINGS FOR LOCATIONS OF OUTLETS. ALLOW TO JUMPER ALL CONNECTIONS, TEST LINES, TERMINATE AND
- COMPLETE WIRING RECORDS REFER SPECIFICATIONS FOR FURTHER DETAILS.

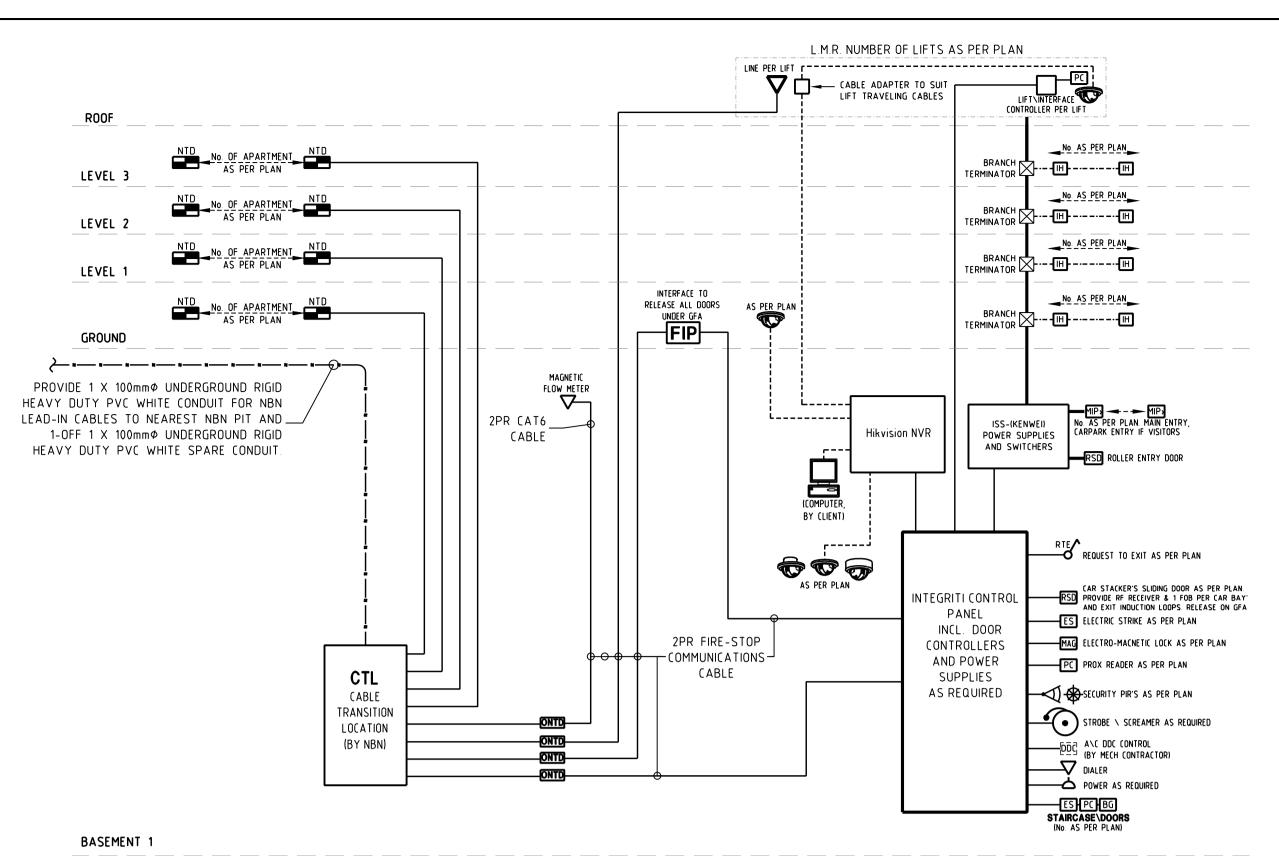
INTERCOM SYSTEM

THE INTERCOM SYSTEM SHALL BE A IIS (KENWEI) COLOUR VIDEO/AUDIO SYSTEM UTILISING A 4-WIRE BUS. MAIN ENTRANCE PANELS SHALL BE IIS (KENWEI) WITH DIGITAL CALL AND LCD SCREEN INTERNAL PER APARTMENT ROOM STATIONS SHALL BE IIS (KENWEI) 7" Screens KW-S704 SERIES PROVIDE NECESSARY ACCESSORIES SUCH AS POWER SUPPLIES. ELECTRIC STRIKES. CABLE ETC FOR INSTALLATION AND COMMISSIONING OF THE SYSTEM.

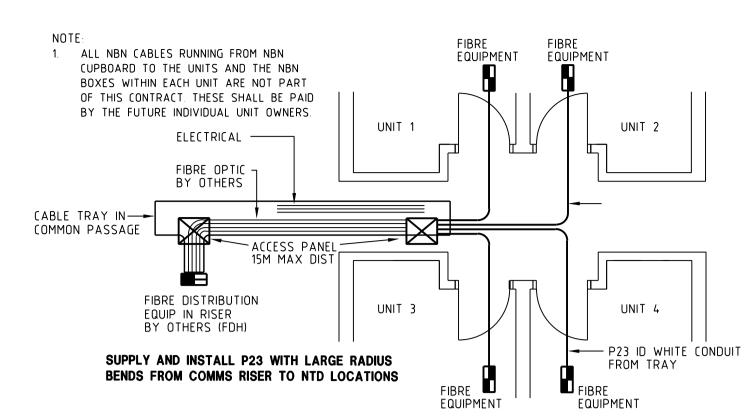
APARTMENT ROOM STATIONS SHALL BE INTERFACED WITH THE SECURITY SYSTEM TO PROVIDE VISITORS ACCESS TO LIFT AND CAR PARK ROLLER-SHUTTER DOOR.

SUPPLIER DETAILS

CENTRAL SECURITY DISTRIBUTION PL UNIT 6, 35 DUNLOP ROAD MULGRAVE 3170 CONTACT: ETWELL PAUSIGERE: 0438 303 413

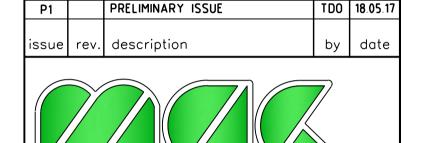


THE SCHEMATICS AND DIAGRAMS SHOWN IN THIS DRAWING ARE INDICATIVE OF THE PROPOSED SYSTEMS ARRANGEMENT. THE DIAGRAMS HEREIN ONLY PROVIDE AN OVERVIEW OF THE INTENT OF THE FUNCTIONALITY REQUIRED. THE CONTRACTOR SHALL NOTE THAT FIELD OUTLETS AND/OR DEVICES ON THE POWER AND LIGHTING LAYOUTS ARE NOT NECESSARILY REPLICATED ON THIS DRAWING. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS COMPLETE WITH DETAILED INFORMATION OF ALL COMPONENTS OF THE SECURITY/MATV/INTERCOM SYSTEM



FIBRE RETICULATION

- 1. PROVIDE CABLE TRAY BETWEEN ACCESS PANELS TO RETICULATE FIBRE. MAINTAIN
- SEGREGATION OF 100mm SPACING BETWEEN FIBRE & ELECTRICAL CABLES ACCESS PANELS MUST BE PROVIDED AT ANY CHANGE OF DIRECTION OF CABLE TRAY,
- CABLE TRAY TO CONDUIT TRANSITION OR NO MORE THAN 15M APART. 3. PROVIDE P23 ID WHITE CONDUIT & FIXINGS FROM CABLE TRAY TO APARTMENT ENCLOSURE
- WITH NO MORE THAN THREE 90DEG 300mm RADUIS BENDS AND NOT MORE THAN 50M.
- 4. CO-ORDINATE INSTALLATION WITH FIBRE INSTALLER(WITH NBN Co.) AND SUBMIT SHOP DRAWINGS IN
- CAD FORMAT FOR APPROVAL PRIOR TO COMMENCING WORKS. 6. FDH TO HAVE 300mm CLEAR SPACE EITHER SIDE IF LOCATED CUPBOARD.
- N.T.S. INDICATIVE ONLY.
- 8. INSTALL TO LASTEST NBN STANDARDS



TENDER ISSUE

MacCORMACK ASSOCIATES CONSULTANTS Pty. Ltd

MECHANICAL ELECTRICAL HYDRAULIC AND FIRE SERVICES CONSULTING ENGINEERS AND PROJECT MANAGERS

1st Floor, 276 High St, Kew 3101 Telephone: (03) 9853 5311 (03) 9853 0535 info@maccormack.com.au E-Mail:

maccormack.com.au

Web:



S.M.A.T.V. SPECIFICATIONS

EQUIPMENT USED SHALL BE MANUFACTURED BY IKUSI OR APPROVED BROADCAST TYPE

COMPLYING TO BELOW:

DVB-T COFDM 64 QAM

PLATE SHALL BE PROVIDED

1367:2007 REQUIREMENTS.

APPROVED EQUIVALENT.

INSTALLATION

EARTHED IN COMPLIANCE WITH AS/NZS

OXTEL SPECIFICATIONS.

AND MER AS REQUIRED BY FOXTEL

MUST BE FULLY APPROVED BY FOXTEL.

"CONCEPTUAL SATELLITE REQUEST FORM" WITH

APPROPRIATIVE SCOPE OF WORKS FORM SUBMITTED TO

A FULLY FUNCTIONING SYSTEM IS TO BE INSTALLED AND

FOXTEL INCORPORATING ALL LOG READINGS OF SIGNAL LEVELS, BER

ANY FAULTS DETECTED BY FOXTEL MUST BE RECTIFIED AND SYSTEM

ALLOWED FOR

SHALL USE RG6 QUAD SHIELDED COAX FOR RUNS

A PHONE POINT IS ALSO REQUIRED AT EACH WALL PLATE.

SPECIFIC EARTHING REQUIREMENTS AND OTHER REQUIREMENTS.

WALL PLATE LEVEL (dBuV)

CONTACT IKUSI AUST N.Z. P/L FOR DETAILS ON (03) 9720 8000 OR TESTING TO BE CARRIED OUT AND READINGS WITHIN A SYSTEM DESIGNASSIST.COM.AU

EQUIVALENT EQUIPMENT FOR THIS PROJECT. A SITE TEST IS RECOMMENDED TO VERIFY QUALITY AND STRENGTH OF FREE TO AIR DIGITAL TV SIGNAL. WHERE THE QUALITY OF THE DIGITAL SIGNAL IS POOR DUE TO BLACK

SPOT AREA. THEN THE DIGITAL CHANNEL PROCESSORS SHALL BE REPLACED BY DIGITAL CHANNEL REGENERATORS TO MAINTAIN DIGITAL TV SERVICES. THE HEADEND SHALL BE CAPABLE OF DISTRIBUTING ALL DIGITAL TV CHANNELS VIA DIGITAL CHANNEL PROCESSOR UNITS OR DIGITAL CHANNEL REGENERATORS AS REQUIRED.

DIGITAL TRANSMODULATORS SHALL ALSO BE INSTALLED, WHERE REQUIRED, TO PROVIDE THE MAIN PRIMARY CHANNELS SOURCED FROM THE FM MODULE SHALL BE INCLUDED TO COVER THE FM BAND FROM 88 TO

SYSTEM SHALL INCORPORATE AN ACTIVE COMBINER TO MAINTAIN HIGH CHANNEL ISOLATION.

FINAL DRIVE SHALL UTILIZE MATCHING LAUNCH AMPLIFIER TV FORWARD PATH WILL BE 45 TO 694 MHZ WITH NO SIGNAL TO EXCEED 100 dBuV THE HEADEND SHALL INCLUDE FOXTEL APPROVED QUAD OUTPUT LNB. PLEASE CONTACT IKUSI FOR PREFERRED INSTALLERS SATELLITE DISH AND MOUNT SATELLITE IF AMPLIFICATION DISTRIBUTE SATELLITE SIGNAL

ALL EQUIPMENT REQUIRED FOR DISTRIBUTING THE FOXTEL SATELLITE SIGNAL MUST BE FOXTEL APPROVED. MINIMUM ANALOGUE TV LEVEL AT WALL PLATE SHALL NOT BE LESS THAN 62 dBuV AND NOT EXCEED A MAXIMUM OF 75 dBuV

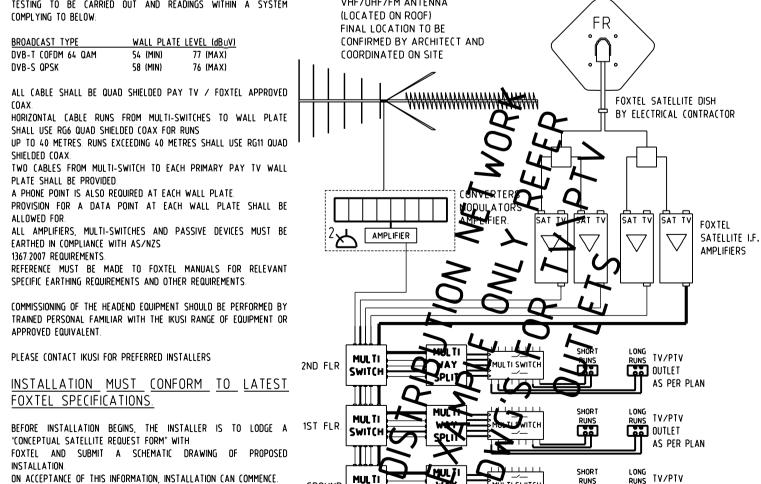
MINIMUM DIGITAL TV POWER AT WALL PLATE SHALL NOT BE LESS

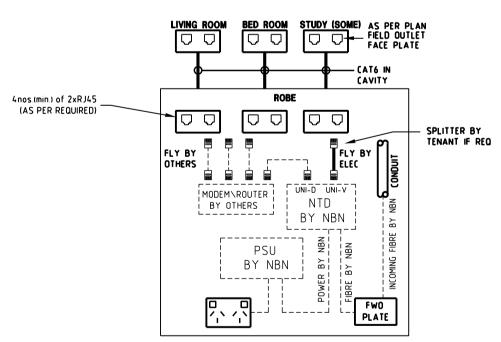
THAN 50 dBuV AND NOT EXCEED A MAXIMUM OF 65 dBuV AT THE OUTLET. SATELLITE PAY TV SIGNAL LEVEL SHALL COMPLY WITH CURRENT FOXTEL SPECIFICATIONS

ALL ACTIVE AND PASSIVE EQUIPMENT SHALL BE F TYPE. ALL F TYPE CONNECTORS MUST BE COMPRESSION TYPE AND PAY TV / FOXTEL APPROVED.

FOXTEL REQUIRES ALL SYSTEM AND WALL PLATES PERFORMANCE

S.M.A.T.V. SCHEMATIC VHF/UHF/FM ANTENNA





DATA\COMMS BLOCK CABLING

- 1. ITEMS PROVIDED BY NBN SHOWN DASHED
- 2. PROVIDE CONDUIT PATHWAY, FWO WITH DRAW WIRE, DGPO, RJ45 OUTLET PATCH PANEL (SIZE TO SUIT) FLY LEADS BETWEEN EQUIPMENT, ENCLOSURE, AND RUN OUTS TO PHONE AND DATA POINTS AS PER PLAN
- 3. CO-ORDINATE WITH JOINERY & BUILDER FOR & SUPPORTS AND SPACE
- 4. TO COMPLY WITH LATEST NBN REQUIREMENTS.
- 5. END USER TO PROVIDE MODEM\ROUTER NEAR NTD

P23 CONDUIT-SIDE VIEW (AS PER REQUIRED) PLAN VIEW

HANGING RAIL CUT SHORT

CONFIRM CONSENT FROM NBN FOR HANGING RAIL CUT SHORT OPTION PRIOR TO INSTALL

HANGING RAIL |

- 2. PROVIDE DGPO, 4nos. OF 2XRJ45 (VOICE & DATA WIRED BACK TO FEILD. BLANK PLATE (FWO) CNW DRAW WIRE AND CONDUIT IN CAVITY SPACED TO LASTEST NBN REQUIREMENTS
- 3. CO-ORDINATE WITH JOINERY & BUILDER FOR HANGING RAIL TO BE CUT SHORT TO SUIT & SUPPORT IN WALL FOR EQUIPMENT TO BE MOUNTED.
- 4. NBN TEMPLATE SPACE TO BE 325mm X 565mm OR 656mm X 325mm
- 5. ITEMS PROVIDED BY NBN SHOWN DASHED

This drawing is strictly copyright and shall not be copied in whole or part or amended without the written consent of the consulting engineers Contractors must verify all dimensions at the job before commencing any work or preparing shop drawings.

light fittings, power outlets, sprinkler heads, etc. from the Architects reflected ceiling plans and other detailed

Contractors must locate all air registers pipework outlets,

Do not scale. All dimensions to be checked on site.

This drawing is available in electronic format at a cost of \$125 payable by this subcontractor

project title

1 VINE STREET HEIDELBERG, VIC 3084

drawing title

ELECTRICAL SERVICES

SCHEMATICS DETAIL LAYOUT SHEET 2 of 2

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