

**NOTES**

1. EXTENT OF WORKS

THE ELECTRICAL SERVICES SUB-CONTRACT INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

- SUPPLY AND INSTALLATION OF ALL COMPONENTS FORMING PART OF THE ELECTRICAL SERVICES.
- CO-ORDINATION.
- INSPECTIONS.
- TESTING AND COMMISSIONING.
- MAINTENANCE.
- CABLING, CABLE SUPPORT SYSTEMS AND ACCESS.
- POWER DISTRIBUTION.
- TEMPORARY WORKS TO SUPPLY THE PUMP.
- CONNECTION OF THE PUMP TO THE PERMANENT SERVICE.
- REMOVAL OF THE TEMPORARY WORKS.
- REMOVAL OF THE STURGEON STREET ENERGEX SUPPLY AND ASSOCIATED PROPERTY POLE.
- REMOVAL OF THE PUMP ENERGEX METERS.
- MODIFICATION OF THE PUMP MEN / EARTHING.
- DISTRIBUTION BOARD DB-TS.
- SUB MAIN FROM DB-SP TO THE TEMPORARY PUMP SUPPLY AND THEN REDIRECTION TO DB-TS.
- RECONNECTION OF EXISTING SERVICES THAT REMAIN.
- LIGHTING CONTROL.
- LIGHT FITTINGS.
- LIGHTING POLES INCLUDING FOOTINGS.
- LIGHTING CONTROL.
- UNDERGROUND PITS AND CONDUITS.
- REMOVAL OF ALL SERVICES AND COMPONENTS MADE REDUNDANT BY THE WORKS.
- ALL MINOR COMPONENTS AND INCIDENTAL WORKS NOT SPECIFICALLY REFERRED TO, HOWEVER NECESSARY TO COMPLETE THE ELECTRICAL SERVICES INSTALLATION SUCH THAT IT IS HANDED OVER COMPLETE, OPERATIONAL AND FIT FOR THE INTENDED USE.
- CIRCUIT SCHEDULE AND LABELLING.
- AS BUILT DRAWINGS.
- CERTIFICATION.

REMOVE THE EXISTING EIGHT POLES, FOOTINGS AND LIGHTS.

SUPPLY ALL LABOUR, MATERIALS, EQUIPMENT, AND ALL OTHER ITEMS, WHETHER MENTIONED IN DETAIL OR NOT, REQUIRED FOR THE SATISFACTORY COMPLETION OF THE ELECTRICAL SERVICES INSTALLATION, LEAVING IN FULL WORKING ORDER TO THE SATISFACTION OF THE PROJECT MANAGER.

ACCEPT FULL RESPONSIBILITY FOR LIAISING, ARRANGING AND CO-ORDINATION ALL WORKS THAT HAVE AN EFFECT ON OR WILL BE AFFECTED BY THE ELECTRICAL SERVICES.

2. WORKMANSHIP

ENSURE THAT THE WORK IS PERFORMED BY THE HOLDER OF A CURRENT ELECTRICAL SUB CONTRACTOR LICENSE. ENSURE THE INSTALLATION AND ALL COMPONENTS, FIXTURES, FITTINGS, OUTLETS AND CABLES ARE SUPPLIED AND INSTALLED TO A HIGH STANDARD THROUGHOUT, AND INSTALLED IN A NEAT AND TRADESMAN LIKE MANNER, TO THE CURRENT INDUSTRY STANDARDS. ENSURE ALL MATERIALS AND COMPONENTS OF A SIMILAR TYPE ARE OF THE SAME MANUFACTURER AND INSTALLED IN A UNIFORM MANNER.

IT IS THE ELECTRICAL SUB CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE INSTALLATION IS FIT FOR PURPOSE AND IS PROVIDED AS A COMPLETE WORKING INSTALLATION. IT IS THE ELECTRICAL SUB CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL COMPONENTS, FITTINGS, FIXTURES, SYSTEMS, PROGRAMMING ETC IRRESPECTIVE OF THE LEVEL DETAILED IN THE DOCUMENTS SUCH THAT THE INSTALLATION IS PROVIDED AS A COMPLETE WORKING INSTALLATION.

CONCEAL ALL WIRING AND CONDUITS. EXPOSED CABLING OR CONDUITS ARE GENERALLY NOT ACCEPTABLE. IT IS NOTED THAT CHASING AND REINSTATEMENT WILL BE REQUIRED. ENSURE ALL COMPONENTS, EQUIPMENT AND MATERIALS SUPPLIED ARE NEW, UNUSED, DESIGNED AND SELECTED TO ENSURE SATISFACTORY OPERATION UNDER VARYING ATMOSPHERIC, CLIMATIC, HUMID TROPICAL CONDITIONS WITHOUT DISTORTION AND DETERIORATION IN ANY PART AFFECTING EFFICIENCY AND RELIABILITY OF THE SYSTEMS. DESIGN AND SELECT ALL EQUIPMENT TO PROVIDE THE NECESSARY SAFETY TO HUMAN LIFE AND PROPERTY DURING OPERATION AND MAINTENANCE WITH PARTICULAR ATTENTION GIVEN TO ELECTRICAL SAFETY AND SEGREGATION PRECAUTIONS.

CHECK THE FINISHED PAINTWORK AROUND THE AREA OF EACH INSTALLATION AND TOUCH UP ALL DAMAGED PARTS AND FINISHES AFTER THE INSTALLATION OF THE ELECTRICAL SERVICES.

ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE BUILDER'S PROGRAM. ENSURE ALL FINAL LOCATIONS OF OUTLETS AND FITTINGS ARE CO-ORDINATED ON SITE WITH THE ARCHITECT AND ALL OTHER SERVICES, TO THE APPROVAL OF THE PROJECT MANAGER. ALLOW TO CO-ORDINATE THE FINAL LOCATION OF ALL EQUIPMENT, FITTINGS, & OUTLETS, SUCH THAT THEY ARE INSTALLED IN ACCORDANCE WITH THE AS3000 RESTRICTED ZONES, AND ARE NOT COVERED INAPPROPRIATELY.

ENSURE THAT ALL METAL SURFACES ARE SUITABLY PROTECTED AGAINST CORROSION, AND THAT ALL PLASTIC MATERIALS ARE UV STABILISED.

PROVIDE ALL MATERIALS AS NEW, AND OF THE HIGHEST CLASS AVAILABLE FOR THEIR RESPECTIVE TYPES. ENSURE ALL ASPECTS OF THE WORK ARE OF A HIGH STANDARD THROUGHOUT, AND INSTALLED IN A NEAT AND TRADESMAN LIKE MANNER, TO THE CURRENT INDUSTRY STANDARDS.

PERMANENTLY LABEL ALL COMPONENTS AND EQUIPMENT PROVIDED AS PART OF THE ELECTRICAL INSTALLATION INCLUDING THOUGH NOT LIMITED TO , ALL CABLES, DISTRIBUTION BOARD AND LUMINARIES. CROSS REFERENCE ALL LABELLING ON THE AS BUILT DRAWINGS.

3. STANDARDS

IRRESPECTIVE OF INFORMATION CONTAINED IN THE ELECTRICAL SERVICES DOCUMENTS OR IN INSTRUCTIONS. IT IS THE ELECTRICAL SUB CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL ELECTRICAL SERVICES WORKS ARE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE FOLLOWING. REFER ANY DISCREPANCIES BETWEEN THE REQUIREMENTS OF THE FOLLOWING AND/OR THE ELECTRICAL SERVICES DOCUMENTS AND INSTRUCTIONS TO THE ARCHITECT FOR CLARIFICATION PRIOR TO THE PLACING OF ORDERS, FABRICATION OR INSTALLATION OF THE ITEMS/METHODS IN DISCREPANCY.

- NCC BUILDING CODE OF AUSTRALIA.
- ELECTRICITY ACT.
- ELECTRICAL SAFETY ACT.
- AS/NZS3000.
- AS3008.
- WORKPLACE HEALTH AND SAFETY ACT.
- TELECOMMUNICATIONS ACT.
- ACMA REQUIREMENTS.

**NOTES**

4. AUTHORITIES

ENSURE ALL OF THE ELECTRICAL SERVICES COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AUTHORITIES HAVING JURISDICTION OVER THE SITE INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

- ACMA.
- LOCAL COUNCIL.
- LOCAL SUPPLY AUTHORITY.
- STATE GOVERNMENT DEPARTMENT OF ENVIRONMENT AND HERITAGE.
- QLD GOVERNMENT, DIVISION OF WORKPLACE, HEALTH AND SAFETY.

5. DISTRIBUTION BOARD

PROVIDE THE EXISTING SWIMMING POOL CENTRE DISTRIBUTION BOARD (DB-SP) WITH A MCB TO SUPPLY THE NEW TENNIS COURTS DISTRIBUTION BOARD (DB-TS) VIA AN UNDERGROUND SUBMAIN. THIS SUBMAIN IS TO BE USED TO TEMPORARALLY SUPPLY THE PUMP.

PROVIDE DB-TS AS A 36-POLE 250A 3-PHASE WALL MOUNTED PANEL BOARD C/W A SPARE FULL WIDTH DIN RAIL AND A 100A MAIN SWITCH.

THE DISTRIBUTION BOARD DB-TS IS TO BE STAINLESS-STEEL IP 56 AND HAVE A FLUSH KEY LOCKABLE DOOR WITH LIFT OFF HINGES. PROVIDE THE DISTRIBUTION BOARD WITH SURGE PROTECTION AND HORIZONTAL DIN RAILS TO MOUNT THE CONTROL EQUIPMENT. PROVIDE A SHOP DRAWING OF THE DISTRIBUTION BOARD FOR APPROVAL. THE TOP OF THE DISTRIBUTION BOARD IS TO BE SEALED AND MUST NOT CONTAIN ANY GLAND PLATES OR PROVISION FOR CABLE ACCESS. ALL CABLES ENTERING THE NEW DISTRIBUTION BOARD MUST ENTER FROM BELOW.

PROVIDE THE DISTRIBUTION BOARD DB-TS WITH A LAMINATED CIRCUIT SCHEDULE. LABEL ALL COMPONENTS WITHIN THE DISTRIBUTION BOARD INCLUDING ALL CABLING.

PROVIDE A NEW POWER PIT A OVER THE EXISTING UNDERGROUND CONDUIT THAT SUPPLIES THE PUMP. RUN A NEW 1 X 100 DIA UNDERGROUND CONDUIT FROM PIT A TO A NEW PIT B ADJACENT THE BOUNDARY. POSITION PIT B CLEAR OF THE SUSPENDED SLAB AND DRAINAGE SYSTEM. CONNECT PIT B TO DISTRIBUTION BOARD DB-TS AND TO PIT C EACH WITH TWO X 100 DIA UNDERGROUND CONDUITS. CONNECT PIT C TO PIT D WITH TWO X 100 DIA UNDERGROUND CONDUITS.

PROVIDE A TEMPORARY LV PILLAR IN THE VICINITY OF PIT B TO FACILITATE THE TEMPORARY SUPPLY OF THE PUMP VIA DB-SP. ENSURE ALL TEMPORARY CABLES AND TEMPORARY CABLE MODIFICATIONS ARE SUCH THAT THE PUMP SUBMAIN CAN BE PULLED BACK TO PIT B AND THEN REDIRECTED TO DB-TS SO THE PUMP CAN BE PERMANENTLY SUPPLIED FROM DB-TS. ENSURE ALL TEMPORARY CABLES AND TEMPORARY CABLE MODIFICATIONS ARE SUCH THAT THE PUMP SUBMAIN FROM DB-SP CAN BE PULLED BACK TO PIT B AND THEN REDIRECTED TO DB-TS AND USED AS THE PERMANENT SUPPLY TO DB-TS.

ONCE THE TEMPORARY SUPPLY TO THE PUMP IS IN PLACE REMOVE THE EXISTING STURGEON STREET PROPERTY POLE, ASSOCIATED ENERGEX SERVICES, METER AND MODIFY THE PUMP MEN / EARTHING ACCORDINGLY.

ONCE DB-TS IS IN PLACE REMOVE THE TEMPORARY LV PILLAR AND REDIRECT THE PUMP AND DB-SP CABLEING TO DB-TS SUCH THAT DB-TS IS SUPPLIED FROM DB-SP AND THE PUMP IS SUPPLIED FROM DB-TS.

6. CABLES

UNLESS OTHERWISE SPECIFIED, INSTALL AND TERMINATE CABLES IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS. DETERMINE THE FINAL ROUTES TO SUIT THE BUILDING STRUCTURE AND SITE CONDITIONS. PROVIDE CIRCUITS DB- L1 TO L5 AND DB-P1 AS SINGLE PHASE 2.5mm<sup>2</sup> TWIN & EARTH STRANDED COPPER CONDUCTORS, PVC INSULATED 0.6/1kV V75 GRADE TO AS3174, EACH PROTECTED BY COMBINATION DIN STYLE 30MA RCD 20A CIRCUIT BREAKERS. ALL CONDUIT AND FITTINGS TO BE CONCEALED RIGID UPVC TO AS2053.

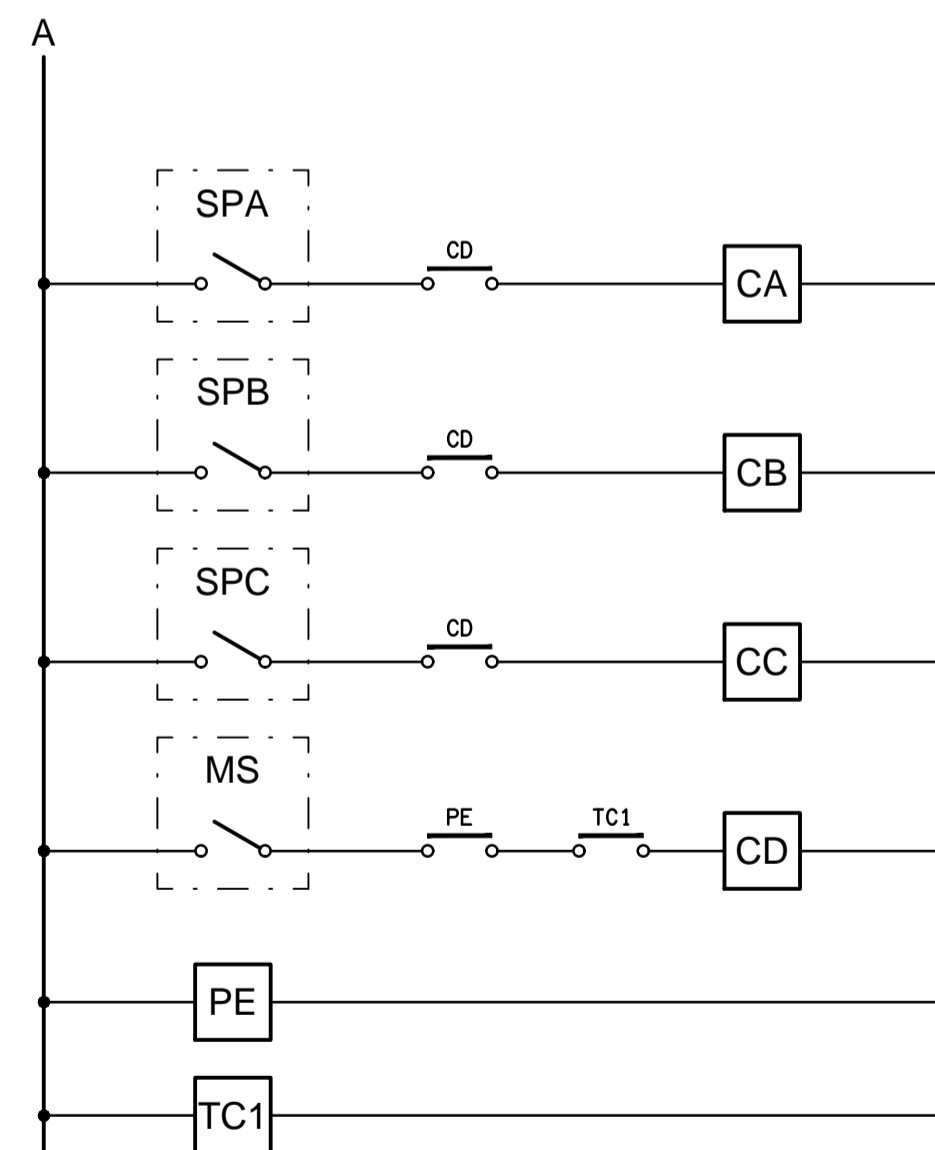
7. RECORDS

ONE WEEK PRIOR TO THE LIGHTING BEING ENERGISED PROVIDE AN ELECTRONIC COPY VIA E-MAIL OF THE FOLLOWING TO THE ANGLICAN CHURCH GRAMMAR SCHOOL AND THE ENGINEER:

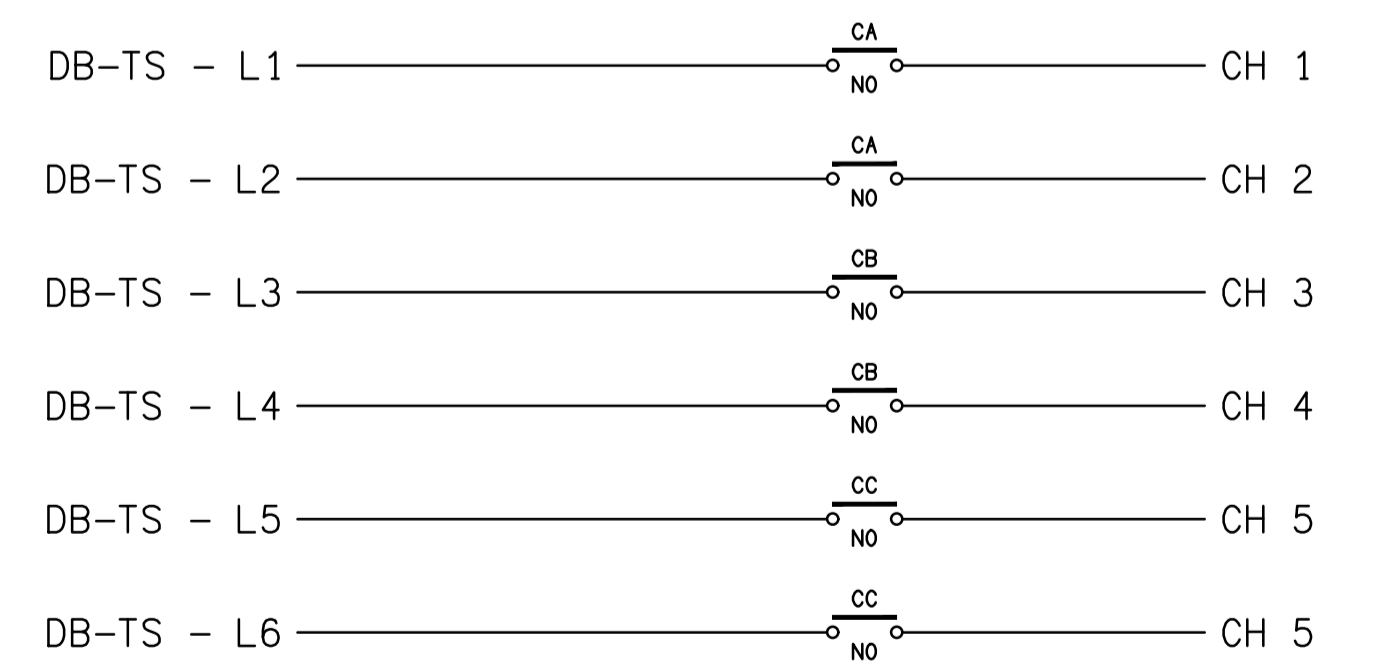
- "AS BUILT" DRAWINGS
- FORM 16 FROM A RPEQ
- STRUCTURAL FOR "AS BUILT / AS INSTALLED" (MEASURED COMPLIANCE)
- STRUCTURAL (POLES & FOOTINGS)
- TEST CERTIFICATES IN ACCORDANCE WITH SECTION 8 OF AS/NZS3000 AND AS/NZS3017. CERTIFICATE MUST BE SIGNED BY A REGISTERED ELECTRICAL CONTRACTOR QUEENSLAND (RECO)
- ELECTRICAL SAFETY CERTIFICATE STATING COMPLIANCE TO AS3000 ELECTRICAL SYSTEM SIGNED BY REGISTERED ELECTRICAL CONTRACTOR QUEENSLAND ELECTRICAL (RECO).

**LEGEND**

- ELECTRICAL SWITCHBOARD.
- IP56 10A WEATHERPROOF DOUBLE POWER OUTLET.
- 50mm DIA COMMUNICATIONS CONDUIT C/W DRAW WIRE.
- 2 x 100mm DIA POWER CONDUIT C/W DRAW WIRE, UNLESS NOTED OTHERWISE.
- COMMUNICATIONS PIT TO MATCH THE RECENTLY INSTALLED PITS IN THE SCHOOL.
- POWER PIT x TO MATCH THE RECENTLY INSTALLED PITS IN THE SCHOOL.
- LIGHTING CHANNEL REFERENCE.
- BG: FUTURE BOOM GATE BY SCHOOL.
- L1: 1 x 550W 5000K FITTING MOUNTED ON A BLACK 8.5m HIGH POLE, CONFIGURED AS PART OF THE FENCE. TYPE: SYLVANIA TITA 55075.
- L2: 1 x 330W 5000K FITTING C/W REAR SPILL SHIELD MOUNTED ON A BLACK 8.5m HIGH POLE, CONFIGURED AS PART OF THE FENCE. TYPE: SYLVANIA TITA 33075.
- L3: 2No. 1 x 550W 5000K FITTING MOUNTED ON A BLACK 8.5m HIGH POLE, CONFIGURED AS PART OF THE FENCE. TYPE: SYLVANIA TITA 55075.
- L4: 1200 LONG BATTEN FITTING C/W SENSOR.
- SPA, B, C: WEATHERPROOF SWITCH MOUNTED IN A METAL HOUSING LOCATED ON THE FENCE POST INSIDE THE GATE OF EACH COURT.
- Cx: CONTACTOR LOCATED IN THE DISTRIBUTION BOARD.
- PE: ADJUSTABLE PE CELL TO PREVENT THE LIGHTS BEING TURNED ON 30MIN. PRIOR TO DUSK.
- MS: MASTER COURT LIGHTING SWITCH LABELLED "MASTER".
- TC1: TIME CLOCK MOUNTED IN THE DISTRIBUTION BOARD TO PREVENT THE LIGHTS OPERATING AFTER 10.00PM.
- FUTURE CCTV CAMERA MOUNTED ON THE LIGHT POLE. PROVIDE AN UNSWITCHED POWER SUPPLY TO A JUNCTION BOX IN THE BASE OF THE POLE. PROVIDE THE POLE WITH A 32DIA COMMUNICATIONS CONDUIT FROM A POSITION ADJACENT THE 100DIA COMMUNICATIONS CONDUIT BELOW DB-TS.



**SCHEMATIC**  
LIGHTING CONTROL  
NOT TO SCALE



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