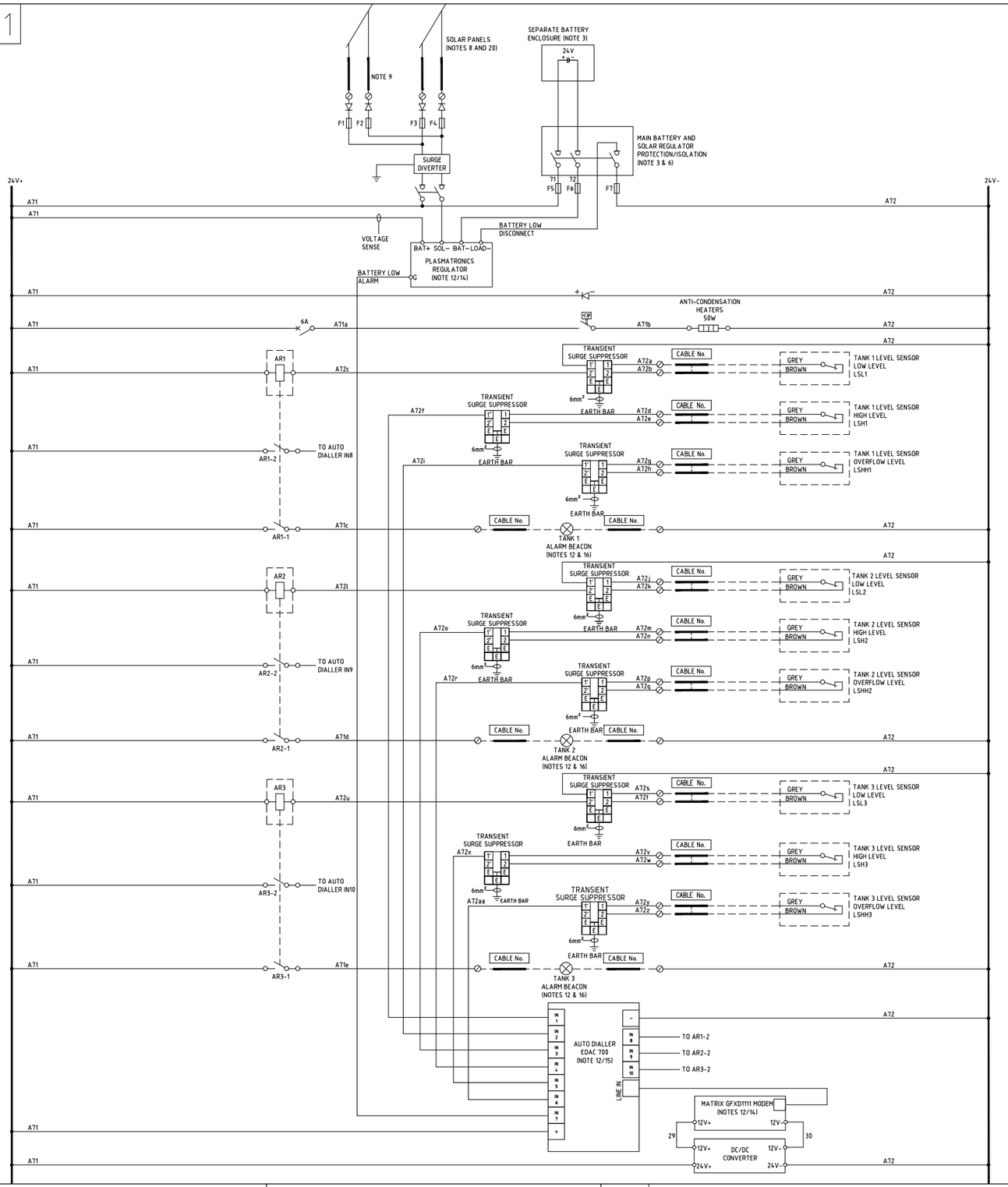
A1



THIS DRAWING MAY ONLY BE USED IN THE COURSE OF AND FOR THE PURPOSE OF CREATING SYDNEY WATER ASSETS. USE THIS DRAWING WITH CARE. THE USER IS RESPONSIBLE FOR THE CORRECT APPLICATION OF THIS DRAWING. DEEMED TO COMPLY DRAWINGS ARE SUBJECT TO TERMS AND CONDITIONS OF USE AS PUBLISHED BY SYDNEY WATER.

NOTES:

1. THIS DRAWING IS INTENDED TO BE USED AS A STANDARD DESIGN APPLICABLE TO A MAXIMUM OF 3 TANKS.
2. CUBICLE TO BE WIRED IN COPPER CABLES 0.6/1kV PVC V75 INSULATION MINIMUM 1.5mm^2. EXCEPT FOR MAIN DC SUPPLIES AND HEATER CCT WHICH MUST BE MIN 2.5mm^2.
3. SEPARATE BATTERY ENCLOSURE, WITH VENTILATION COMPLYING WITH AS4086.2. PROVIDE PROTECTION TO DC EQUIPMENT AND BATTERIES. EQUIPMENT MUST COMPLY WITH AS4509 AND AS4086.2.
4. SOLAR POWER SUPPLIES MUST BE DESIGNED IN ACCORDANCE WITH AS4509 – STAND-ALONE POWER SYSTEMS.
5. CHARGE REGULATORS MUST COMPLY WITH AS4509.2.
6. INSTALL LABEL AT BATTERY ISOLATOR STATING THAT SOLAR PANELS ARE TO BE ISOLATED BEFORE ISOLATING BATTERY.THIS IS TO AVOID POTENTIAL TO DAMAGE EQUIPMENT DUE TO SOLAR PANEL OPEN CIRCUIT VOLTAGE.
7. ALL CABLES USED FOR THE INSTALLATION OF SOLAR POWER SYSTEMS MUST BE SIZED IN ACCORDANCE WITH AS4509.2.
8. SOLAR PANELS MUST BE INDIVIDUALLY WIRED TO AN ACCESSIBLE JUNCTION BOX, TERMINAL OR THE SOLAR REGULATOR TO ENABLE SOLAR PANEL TESTING, WITHOUT HAVING TO CLIMB THE SOLAR PANEL ARRAY FRAME.
9. ALL EXTERNAL CABLES MUST BE PROVIDED WITH A CABLE MARKER AT BOTH ENDS INSCRIBED WITH A UNIQUE IDENTIFYING CODE CONSISTENT WITH THE DESIGN DOCUMENTATION. THE CABLING FOR INDIVIDUAL SOLAR PANELS MUST BE LABELLED WITH THE SOLAR PANEL NUMBER AND AGENCY IDENTITY. LABELS FROM DOMESTIC LABELLERS OF THE "STICK ON" VARIETY OR LABELS MADE WITH "MARKING PENS" ARE NOT ACCEPTABLE.
10. A PHOTOVOLTAIC (PV) ARRAY COMPRISING A NUMBER OF MODULES MUST BE CONNECTED WITH SUITABLE BLOCKING DIODES WIRED IN SERIES WITH EACH SERIES CONNECTED STRING. THE PV ARRAY MUST COMPLY WITH AS5033.
11. EQUIPMENT MUST BE PLACED TO ALLOW AIR-FLOW AROUND ANY VENTS AND IN ACCORDANCE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS. TEMPERATURE RISE WITHIN THE ENCLOSURE MUST BE DETERMINED AND THE ENCLOSURE DESIGNED TO MAINTAIN TEMPERATURE WITHIN THE EQUIPMENT SPECIFICATIONS,
12. ALL EQUIPMENT (INCLUDING SOLAR PANELS) SPECIFICATIONS AND RATINGS TO BE VERIFIED AND CONFIRMED BY THE DETAILED DESIGNER.
13. CONTROL PANEL TO BE INSTALLED FACING SOUTH,
14. MODEM TYPE/MODEL TO MATCH THE AUTO DIALLER. TO BE VERIFIED AND CONFIRMED BY THE AUTO DIALLER MANUFACTURER (EDAC).
15. AUTO DIALLER FUNCTION IS:
    - IN1: TANK 1 – 4 HOURS TO OVERFLOW (DERIVED FROM LSH1)
    - IN2: TANK 1 – OVERFLOW (DERIVED FROM LSHH1)
    - IN3: TANK 2 – 4 HOURS TO OVERFLOW (DERIVED FROM LSH2)
    - IN4: TANK 2 – OVERFLOW (DERIVED FROM LSHH2)
    - IN5: TANK 3 – 4 HOURS TO OVERFLOW (DERIVED FROM LSH3)
    - IN6: TANK 3 – OVERFLOW (DERIVED FROM LSHH3)
    - IN7: BATTERY LOW VOLTS ALARM
    - IN8: TANK 1 – PUMP OUT REQUIRED (DERIVED FROM LSL1)
    - IN9: TANK 2 – PUMP OUT REQUIRED (DERIVED FROM LSL2)
    - IN10: TANK 3 – PUMP OUT REQUIRED (DERIVED FROM LSL3)
    - CONFIGURE TO ACCEPT NORMALLY CLOSED TYPE INPUTS

    FUNCTION TO BE CONFIRMED AGAINST SITE SPECIFIC OPERATING PLAN.
16. ALARM BEACONS TO BE MOUNTED ON PLINTH ADJACENT TO CONTROL PANEL AS SHOWN ON RELEVANT PLAN LAYOUT DRAWING.
17. CONDUITS MUST BE HEAVY DUTY uPVC TO AS2053 AND MINIMUM 50mm DIAMETER.
18. ELECTRICAL CUBICLE MUST BE STAINLESS STEEL 316 AND MINIMUM IP56.
19. ALL ELECTRICAL DESIGN MUST BE IN ACCORDANCE WITH SYDNEY WATER TECHNICAL SPECIFICATION – ELECTRICAL.
20. THE POWER SUPPLY ARRANGEMENT MUST BE EITHER SOLAR POWER WITH BATTERY BACKUP OR SUPPLY AUTHORITY POWER WITH BATTERY BACKUP. THE PREFERRED METHOD OF POWER SUPPLY IS VIA SOLAR POWER. THE PROPONENT MUST CONFIRM THE POWER SUPPLY ARRANGEMENT.

PERFORMANCE SPECIFICATION:

PHOTOVOLTAIC CELLS AND BATTERY SYSTEM MUST BE SIZED TO SATISFY, AS A MINIMUM, THE FOLLOWING REQUIREMENTS:

1. DAYS OF AUTONOMY WITH NO SOLAR INPUT > 3 DAYS.
2. DEPTH OF DISCHARGE < 50%
3. CHARGING TIME FROM 50% TO > 80% CHARGED VOLUME IN LESS THAN 3 HOURS;
4. ESTIMATED POWER SUPPLY REQUIREMENTS:
   - MODEM: 9W
   - AUTO DIALLER: 7W
   - ALARM BEACON: 1.2W (1Hz FLASHING LIGHT, 2 HOURS/DAY)
   - ANTI-CONDENSATION HEATERS: 50W, 6 HOURS/DAY

MAJOR EQUIPMENT LIST: (INDICATIVE ONLY)

1. PLASMATRONICS PL SERIES REGULATOR
2. SUN XTENDER VRLA BATTERIES
3. STEGO RC016 ANTI-CONDENSATION HEATERS (24V DC, 5 OFF 10W FOR 50W TOTAL) & HYGROSTAT
4. DC/DC CONVERTER TO SUIT THE GFXD1111 MODEM (INPUT 10-32V DC / OUTPUT 12 VDC)
5. B & R 'MONARCH IP' ENCLOSURE (CONTROL PANEL), ESTIMATED DIMENSIONS: 600(H) x 800(W) x 270(D)

   DIMENSIONS TO BE VERIFIED AND CONFIRMED IN ACCORDANCE WITH FINAL EQUIPMENT SPECIFICATIONS

   A SEPARATE ENCLOSURE WITH APPROPRIATE VENTILATION IS REQUIRED FOR THE BATTERIES
6. ERICO CRITEC UTB SP TRANSIENT SURGE PROTECTORS
7. FLYGT ENM-10 FLOAT SWITCH
8. LED BEACON SCHNEIDER XVB L1B4

   ⌀ CUBICLE TERMINALS
9. AUTO-DIALLER EDAC700
10. TRINI SOLAR – PSM SOLAR-PANEL

Sydney WATER

APPROVED

NORBERT SCHAEPER

ENGINEERING MODERNISATION MANAGER

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ENGINEERING & TECHNICAL SUPPORT

LETTER	DETAILS OF ISSUE / AMENDMENT	APP'D	DATE
B	GENERAL UPDATE	NS	31/07/24
A	ORIGINAL ISSUE	KW	22/06/15

DEEMED TO COMPLY DRAWINGS

TEMPORARY SEWAGE PUMP-OUT INSTALLATIONS EXAMPLE ELECTRICAL DESIGN SCHEMATIC DIAGRAM

DTC

6313

ISSUE	DATE
B	31/07/24