



## NOTES:

- THIS DRAWING IS INTENDED TO BE USED AS A STANDARD DESIGN APPLICABLE TO A MAXIMUM OF 3 TANKS.
- CUBICLE TO BE WIRED IN COPPER CABLES 0.6/1kV PVC V75 INSULATION MINIMUM 1.5mm<sup>2</sup>. EXCEPT FOR MAIN DC SUPPLIES AND HEATER CCT WHICH SHALL BE MIN 2.5mm<sup>2</sup>.
- THE MANUFACTURER SHALL BE RESPONSIBLE FOR THE SELECTION OF CIRCUIT BREAKERS, FUSES AND ALSO PROTECTION CO-ORDINATION AND CASCADING. THE PROTECTION SYSTEM SHALL COMPLY WITH AS4509, AS5033 AND AS3000.
- SEPARATE BATTERY ENCLOSURE, WITH VENTILATION COMPLYING WITH AS4086.2. PROVIDE PROTECTION TO DC EQUIPMENT AND BATTERIES. EQUIPMENT SHALL COMPLY WITH AS4509 AND AS4086.2.
- SOLAR POWER SUPPLIES SHALL BE DESIGNED IN ACCORDANCE WITH AS 4509 - STAND-ALONE POWER SYSTEMS.
- CHARGE REGULATORS SHALL COMPLY WITH AS4509.2.
- 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.
- ALL CABLES USED FOR THE INSTALLATION OF SOLAR POWER SYSTEMS SHALL BE SIZED IN ACCORDANCE WITH AS4509.2.
- SOLAR PANELS SHALL 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.
- ALL EXTERNAL CABLES SHALL BE PROVIDED WITH A CABLE MARKER AT BOTH ENDS INSCRIBED WITH A UNIQUE IDENTIFYING CODE. THE CABLING FOR INDIVIDUAL SOLAR PANELS SHALL 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.
- A PHOTOVOLTAIC (PV) ARRAY COMPRISING A NUMBER OF MODULES SHOULD BE CONNECTED WITH SUITABLE BLOCKING DIODES WIRED IN SERIES WITH EACH SERIES CONNECTED STRING. THE PV ARRAY SHALL COMPLY WITH AS5033.
- EQUIPMENT SHALL BE PLACED TO ALLOW AIR-FLOW AROUND ANY VENTS AND IN ACCORDANCE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS. TEMPERATURE RISE WITHIN THE ENCLOSURE SHALL BE DETERMINED AND THE ENCLOSURE DESIGNED TO MAINTAIN TEMPERATURE WITHIN THE EQUIPMENT SPECIFICATIONS.
- ALL EQUIPMENT (INCLUDING SOLAR PANELS) SPECIFICATIONS AND RATINGS TO BE VERIFIED/CONFIRMED BY THE DETAILED DESIGNER.
- CONTROL PANEL TO BE INSTALLED FACING SOUTH.
- MODEM TYPE/MODEL TO MATCH THE AUTO DIALLER. TO BE VERIFIED AND CONFIRMED BY THE AUTO DIALLER MANUFACTURER (EDAC).
- AUTO DIALLER FUNCTION IS:
  - IN1: TANK 1 4 HOURS TO OVERFLOW (DERIVED FROM LSM1)
  - IN2: TANK 1 OVERFLOW (DERIVED FROM LSH1)
  - IN3: TANK 2 4 HOURS TO OVERFLOW (DERIVED FROM LSM2)
  - IN4: TANK 2 OVERFLOW (DERIVED FROM LSH2)
  - IN5: TANK 3 4 HOURS TO OVERFLOW (DERIVED FROM LSM3)
  - IN6: TANK 3 OVERFLOW (DERIVED FROM LSH3)
  - IN7: BATTERY LOW VOLTS ALARMCONFIGURE TO ACCEPT NORMALLY CLOSED TYPE INPUTS  
FUNCTION TO BE CONFIRMED AGAINST SITE SPECIFIC OPERATING PLAN.
- ALARM BEACONS TO BE MOUNTED ON PLINTH ADJACENT TO CONTROL PANEL AS SHOWN ON RELEVANT PLAN LAYOUT DRAWING.
- CONDUITS SHALL BE HEAVY DUTY uPVC TO AS2053 AND MINIMUM 50mm DIAMETER.
- ELECTRICAL CUBICLE SHALL BE STAINLESS STEEL 316 AND MINIMUM IP56.

## PERFORMANCE SPECIFICATION:

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

- DAYS OF AUTONOMY WITH NO SOLAR INPUT > 3 DAYS.
- DEPTH OF DISCHARGE < 50%
- CHARGING TIME FROM 50% TO > 80% CHARGED VOLUME IN LESS THAN 3 HOURS;
- 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)

- PLASMATRONICS PL SERIES REGULATOR
- SUN XTENDER VRLA BATTERIES
- STEGO RC016 ANTI-CONDENSATION HEATERS (24V DC, 5 OFF 10W FOR 50W TOTAL) & HYGROSTAT
- DC/DC CONVERTER TO SUIT THE GFXD1111 MODEM (INPUT 10-32V DC / OUTPUT 12 VDC)
- 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.
- ERICO CRITEC UTB SP TRANSIENT SURGE PROTECTORS.
- FLYGT ENM-10 FLOAT SWITCH.
- LED BEACON SCHNEIDER XVB L1B4.  
○ CUBICLE TERMINALS
- AUTO-DIALLER EDAC700.
- TRINI SOLAR - PSM SOLAR-PANEL.

APPROVED

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LETTER

ORIGINAL ISSUE

DETAILS OF ISSUE / AMENDMENT

KW

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APP'D DATE

ISSUE

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DATE

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