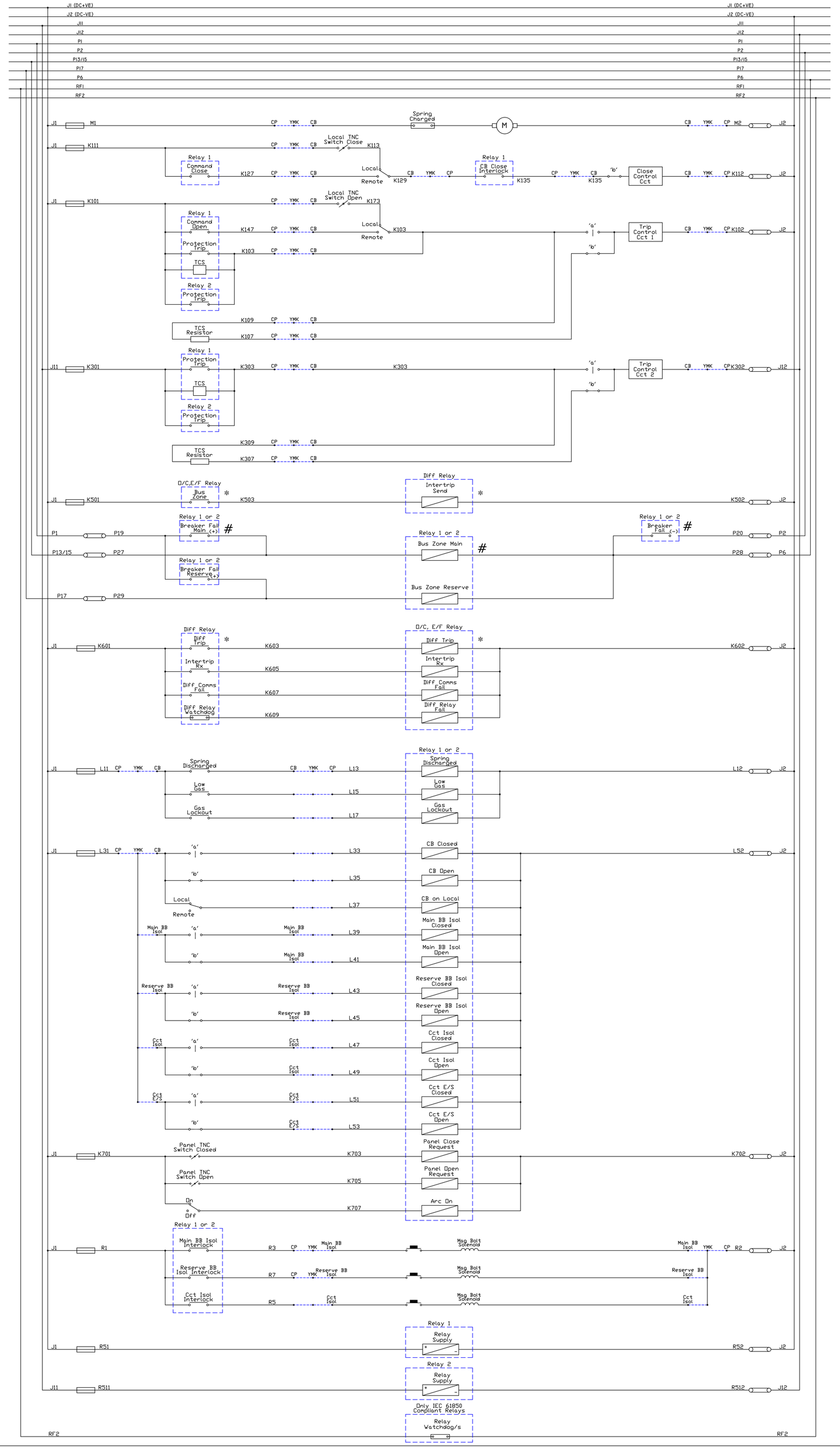
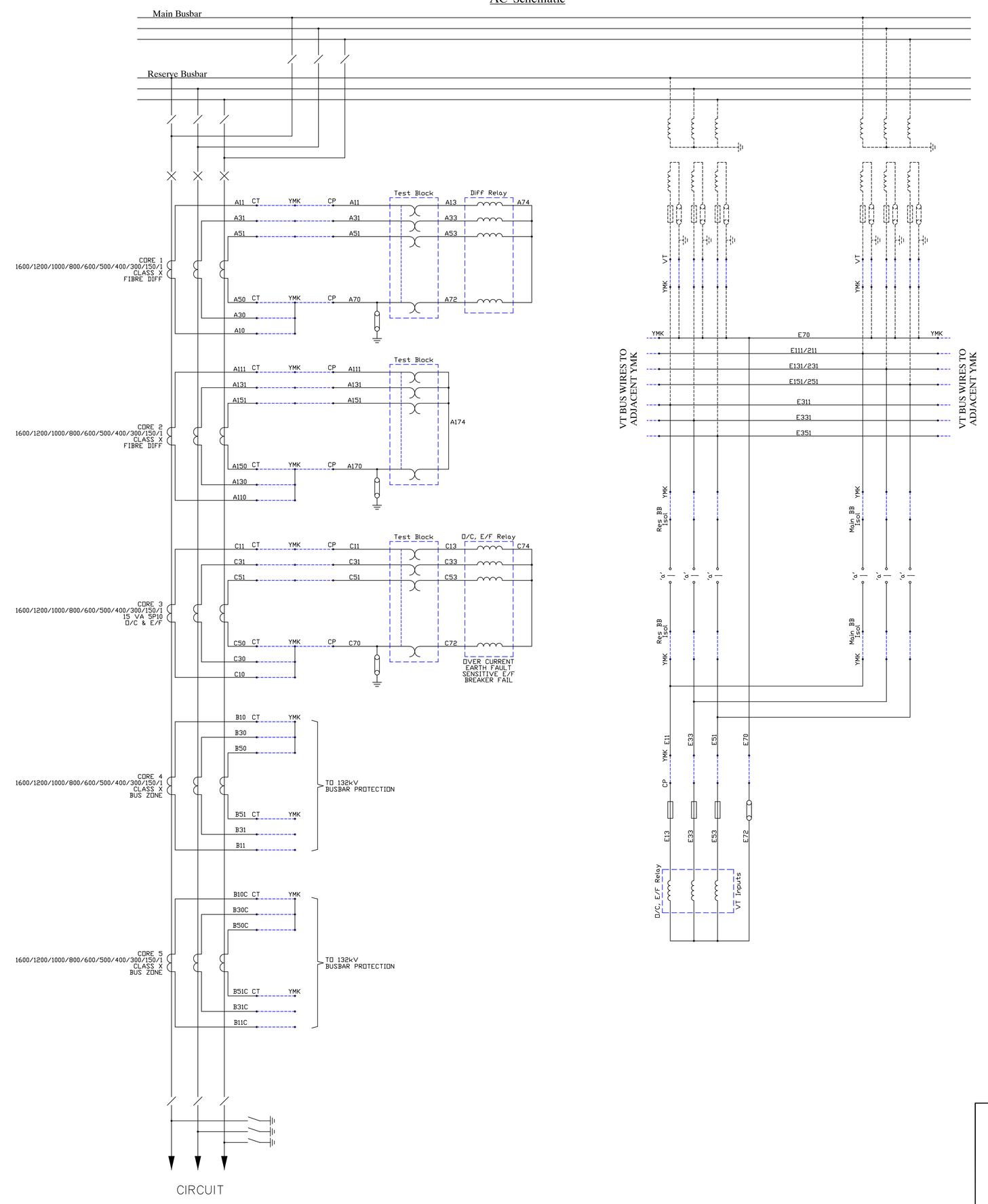
## DC Schematic




## AC Schematic




### LEGEND

| | |
|---|---|
| CP | Control Panel |
| YMK | Yard Marshalling Kiosk |
| E/S | Earth Switch |
| ISOL | Isolator |
| CB | Circuit Breaker |
| BB1 | Busbar 1 |
| BB2 | Busbar 2 |
| ARC | Auto Reclose |
| TCS | Trip Circuit Supervision |
| PB | Push Button |
| PTB | Pilot Board |
| 'a' | Contact which is 'Closed' when Primary Equipment is 'Closed' |
| 'b' | Contact which is 'Closed' when Primary Equipment is 'Open' |
| | Fuse |
| | Link |
| | Control Switch |
| | Push Button |
| | Relay Digital Input |
| | Relay Analog Input |
| | Normally Open Contact |
| | Normally Closed Contact |
| | Current Transformer |

### NOTES:

1. The purpose of this drawing is to clarify the requirements of the associated contract/enquiry specification. The issuer of this with the specification does not absolve the successful contractor from his normal responsibility to provide a satisfactory scheme nor to submit drawings of systems proposed for approval by the engineer.

2. All relays have been shown de-energised with switches open.

3. This drawing will enable the different contractors to co-ordinate their respective systems with associated equipment. For this reason ferrule numbers of interconnecting points must be strictly adhered to. Where absolutely necessary ferrule numbers of connectors not associated with equipment on other contract may be added or altered.

4. Test blocks have been shown schematically. The actual wiring must be from the left, "RED" "WHITE" and "BLUE" as viewed from the front of the test block.

5. Circuitry marked ✻ is only required if differential relay make & model has been specified to match remote end and is not IEC 61850 compliant.

6. Contacts and inputs marked # must all be contained in the same relay.

| | | | | | |
|---|---|---|---|---|---|
| DRAWN | A.J.R.W. | | | | |
| DATE | 25.03.2009 | 1 | UPDATED CT DATA | ML | 21-07-2015 |
| CHIEF DRAUGHTSPERSON | | REFERENCE DRAWINGS: | REVISIONS: | BY: | DATE: |
| PLANNING OFFICER | | | | | |
| PROTECTION ENGINEER | | | | | |
| PLANNING ENGINEER | | | | | |
| PROJECTS ENGINEER | | | | | |
| PLAN/PROJ MANAGER | | | | | |

**ETHEKWINI ELECTRICITY**

PROPOSED 132kV DOUBLE BUSBAR SWITCHYARD

AC & DC SCHEMATIC FOR 132kV CURRENT DIFFERENTIAL FEEDER

APPROVED A.J. BRIER DEPUTY HEAD H.V. OPERATIONS

SCALE: NTS

DRAWING NUMBER: TD 45

REV: 1