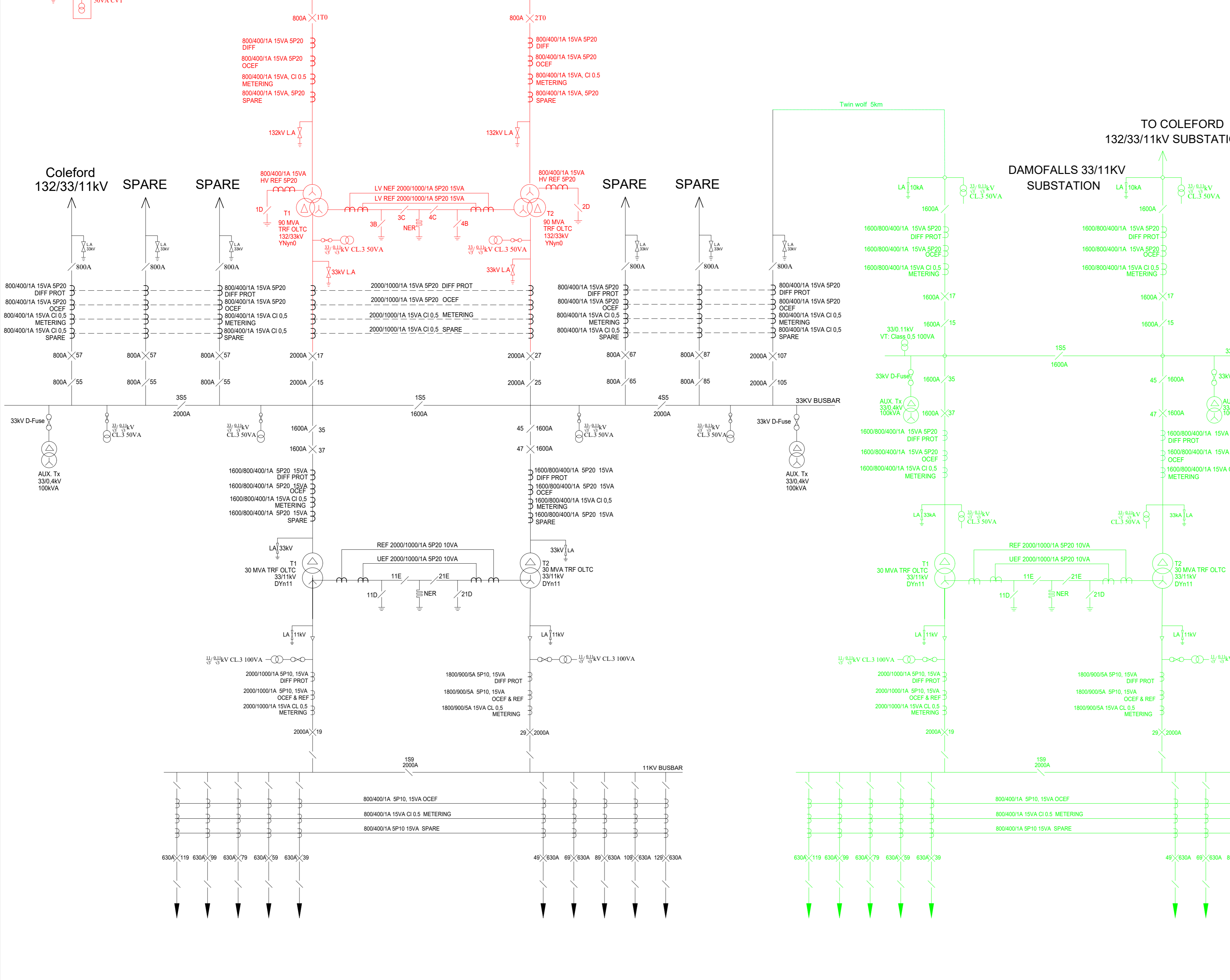
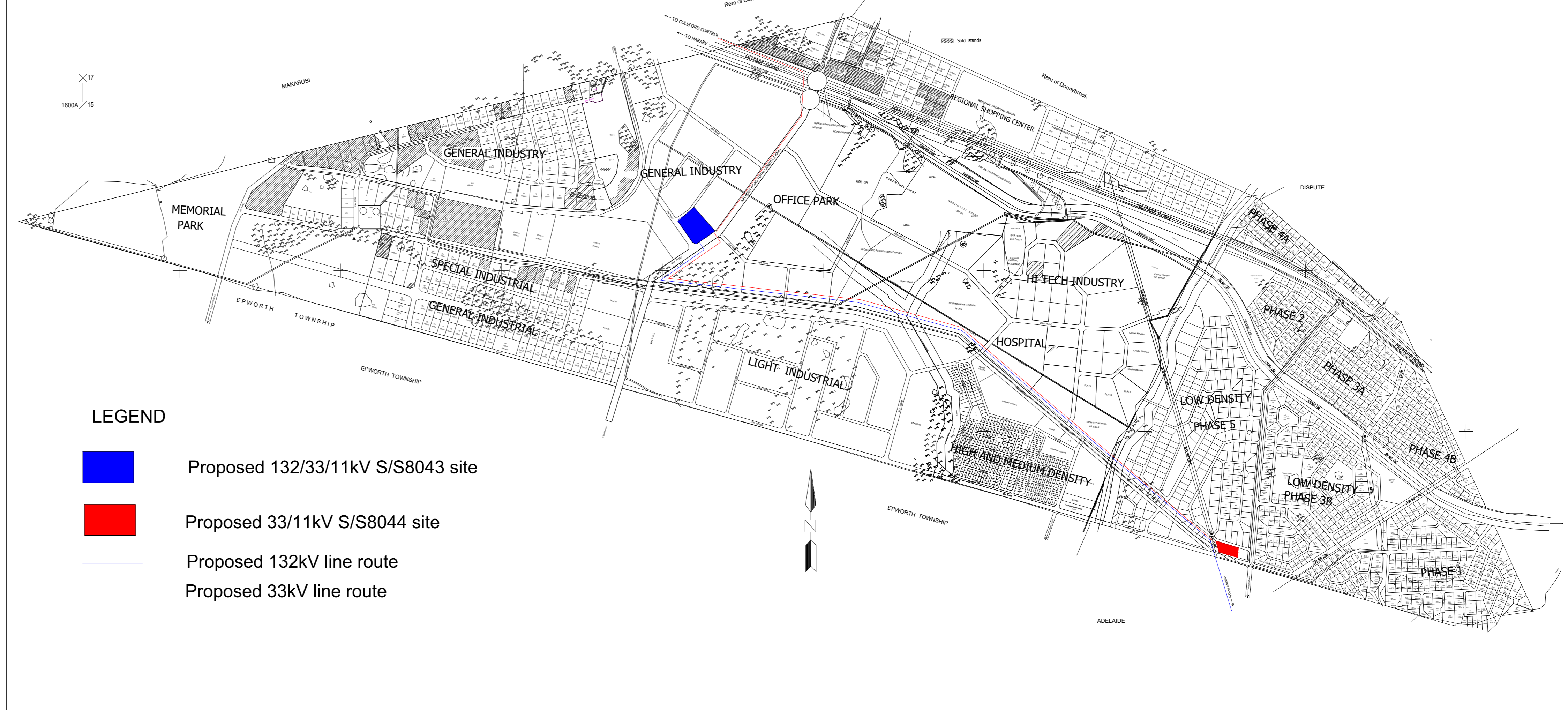
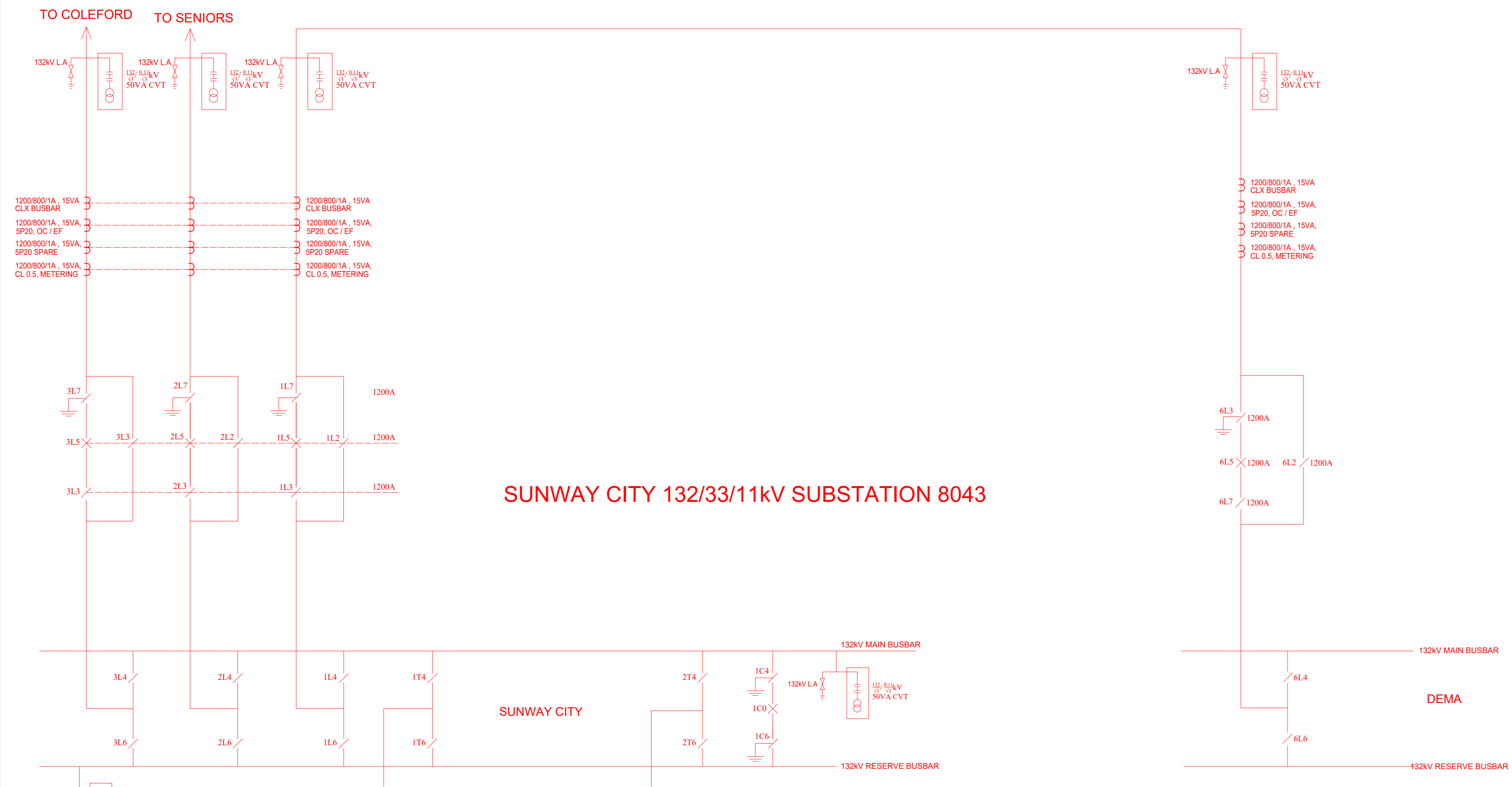


132kV TWIN LYNX OHL



SUMMARIZED BOQS
Dema 330/132kV s/s

Item	Description	UOM	Qty
1.	132kV Line bays complete with control and protection panels	ea	1

Sunway city 132/33/11kV s/s

Item	Description	UOM	Qty
1.	132kV line bay complete with control and protection panels	ca	3
2.	132kV Transformer bay complete with Control and Protection Panels	ca	2
3.	2x90MVA 132/33kV Transformer	ca	2
4.	33kV LV Transformer Bay	ca	2
5.	33kV Line bays complete with control and protection panels	ca	6
6.	33/0.4kV 100kV Aux Transformer	ca	2
7.	33kV HV Transformer Bay	ca	2
8.	2x30MVA 33/11kV Transformer	ca	2
9.	11kV LV Transformer Bay	ca	6
10.	11kV Line bay complete with control and protection	ca	10

Damofalls 33/11kV S/S

Item	Description	UOM	Qty
1.	33kV Line bays complete with control and protection panels	ca	1
2.	33/0.4kV 100kV Aux Transformer	ca	1
3.	33kV HV Transformer Bay	ca	2
4.	2x30MVA 33/11kV Transformer	ca	2
5.	11kV 15 panel indoor board	ca	1

1. INTRODUCTION
- Having being designated a special economic zone (SEZ), the Sunway City industrial and domestic load is expected to grow to 95MVA in the next 5 years and 156MVA by 2040. There is need to develop the network to cater for the short term and long term power requirements for the area.

2. SUNWAY CITY LOAD FORECAST

Demand kVA	2025	2026	2027	2028	2029	2030
	22,963	30,067	43,358	56,368	73,275	95,257

3. SYSTEM PANNING
- Establish Sunway City 2 x 90MVA, 132/33kV substation
- Establish Sunway City 2 x 30MVA, 33/11kV substation,
- Uprate Damofalls to 2 x 30MVA 33/11kV substation

4. CONSTRUCTION
- Construct 40km of twin lynx, monopole 132kV overhead line from Dema 330/33kV substation to Sunway City proposed 132/33kV substation
- Construct 2 x 90MVA, 132/33kV substation at Sunway City
- Construct a 2 x 30MVA, 33/11kV substation complete with 10 outgoing feeders at Sunway City
- Uprate Damofalls from 1 x 20MVA 33/11kV to 2 x 30 MVA 33/11kV S/S
- Construct 15km of twin wolf 33kV overhead line from Sunway city 132/33/11kV substation to Damofalls S/S

5. PROTECTION

5.1 TRANSFORMER

5.1.1 90MVA 132/33kV TRANSFORMERS
- DIFF, HV & LV OC/EF, HV & LV REF, LV NEF
- Over Voltage
- Bucholz Gas/Surge
- Oil & Winding Temperature
- Tank Over Pressure

5.1.2 30MVA 33/11kV TRANSFORMERS
- DIFF, HV & LV OC/EF, LV REF, LV NEF
- Over Voltage
- Bucholz Gas/Surge
- Oil & Winding Temperature
- Tank Over Pressure

5.2 FEEDER

5.2.1 132kV
- Distance Protection
- OC/EF

5.2.2 33kV
- OC/EF

5.2.3 11kV
- OC/EF

6. INDICATIONS/MEASURANDS
- TRANSFORMER: Volts, Amps, MVA, MVAR, PF, Tap Position, MDI
- FEEDER: Amps, MVA, MVAR, MDI

7. CONTROL
- Local, Remote (Bay control) & Supervisory (SCADA)

8. METERING
- Statistical Metering

9. PROJECT IMPLEMENTATION
- Network Development
- System design and Project specification
- Project management

CONTRACTOR
- Detailed design, Procurement, Construction and Commissioning
- Project documentation

OPERATIONS & MAINTENANCE
- Issue of safety documents
- Quality Assurance

PROTECTION TEST
- Protection equipment specifications
- Quality Assurance

POWER NETWORK CONTROL
- System enrolment on SCADA
- Quality assurance

RISK SECTION
- Monitor SHE issues