

Appendix M

Electrical infrastructure report

Settlement City Shopping Centre – Port Macquarie
Environmental Assessment proposed Stage 1

**SETTLEMENT CITY REDEVELOPMENT
BAY STREET, PORT MACQUARIE**

**ELECTRICAL SERVICES
CONCEPT PLAN ASSESSMENT REPORT**

16 February 2009

REPORT ON THE ELECTRICAL SERVICES INFRASTRUCTURE REQUIREMENTS

Executive Summary

The electricity Supply Authority for the complex is Country Energy. There is an existing high voltage cable network and there are four (4) existing substations serving the existing buildings in the complex.

The existing HV network and the existing substations will need to be extended and modified to meet increased commercial, retail and other areas and the staging proposals for the redevelopment, as outlined in the Masterplan Brief.

Country Energy needs to assess the existing HV cable network and substation installations to determine the current electricity capacities and the current loads in the complex.

To maintain electricity supply to unaffected areas during the staged redevelopment works, new substations and alternative power supplies will need to be established prior to the decommissioning or relocation of existing HV cables and existing substations that are located in the proposed redevelopment areas.

Addition to Item 4.3 Concept Plan Description – Sub-Item 4.3.4 Ancillary Infrastructure

Electrical Services

Country Energy is the electricity Supply Authority in the area and they have existing cables and substations on the site. There appears to be enough capacity in the cable infrastructure in the surrounding area to serve the new works.

There are four (4) existing substations located in the complex.

One substation chamber, 2 x 1000kVA transformers, serves the existing DDS and supermarket areas of the shopping centre.

One kiosk substation, pad-mounted 1 x 750kVA transformer, serves the northern areas of the shopping centre.

One kiosk substation, pad-mounted 1 x 750kVA transformer, serves the southern areas of the shopping centre.

One substation chamber, 2 x 1000kVA transformers, serves the existing Panthers Club complex, and some smaller tenancies.

The substation chamber, adjacent to the existing DDS and supermarket areas, appears to be clear of the new development works. This substation chamber can remain in its present configuration and serve the existing loads.

The other three (3) substations will be affected by the redevelopment works proposed for Stage 1a, and Stage 2. The associated HV cables and LV cables will need to be re-established and re-routed to match the proposed development plans and new vehicle road system in the complex. These substations will need to be replaced by a number of new substations. It is likely that two new chamber substations would be required to serve the new buildings.

Where existing substations and associated HV and LV cables are in the proposed development areas, new power supplies will need to be established. The new power supplies will be used to maintain continuity of supply to unaffected areas, prior to the decommissioning of existing substations.

Some existing high voltage cables, forming part of the Supply Authority HV ring feeds in the area, cross the site on existing easements. These HV cables will need to be removed and repositioned around the site to suit the new development works.

The Stage 1b and Stage 1c developments will require the establishment of new substations.

Addition to Item 7.2 Impact Assessment - Sub Item 7.2.2 Infrastructure Provision

Electrical Services

It is proposed the new cable infrastructure for electrical supply around the site will be underground within easements established for this purpose. The underground cables will be out of sight and will have no visual impact on the site.

New substations will be provided in chambers forming parts of the new buildings on the site. These new substation chambers will have minimal effect on the overall development.

The new substations and their associated cables will be planned to have minimal effect from electromagnetic fields emanating from them on the existing and new development areas.

Electrical lighting services around the site are to be planned to utilise energy efficient light sources and switching methods to reduce energy usage but still maintain site safety, facility and security.

Addition to Item 7.3 Indirect Impacts etc - Sub Item 7.3.1 During Construction

Electrical Services

Some existing high voltage cables, forming parts of the Supply Authority ring feeds in the surrounding area, cross the site on existing easements. These HV cables and associated easements will need to be removed and repositioned around the site early in the construction process to suit the new development works.

Addition to Item 7.5 Conclusion

Electrical Services

There is electricity supply on the site and this can be expanded to provide the necessary services for the development of the site.

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