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# CONSULTANT'S ADVICE

**PROJECT NAME:** New Shellharbour Hospital – HV Feeder Works

**PROJECT NUMBER:** 210332

This consultant's advice shall outline the scope of works proposed for the HV feeders to supply the New Shellharbour Hospital, discuss methodology of installation and touch on other expected services affected by the works. This consultant's advice should be read with the overall REF package.

### THE SCOPE OF AND THE NEED AND JUSTIFICATION FOR THE WORKS

The New Shellharbour Hospital is a circa 40,000m2 health care building. This enabling works electrical scope is for the HV infrastructure to supply the new building, and to supply construction power for the development.

Applications to Endeavour Energy have indicated that HV feeders from Shellharbour Zone Substation are to be provided to serve the electricity requirement for the development.

#### THE METHODOLOGY OF INSTALLATION

The installation methodology can be broken into two parts, the HV feeder & temporary construction power works, and the undergrounding aerials works.

The methodology for each works package is as follows:

#### HV feeder & temporary construction power works:

- Progressive trenching along the designed route, within footway, roadways and inside the NSH site, shall occur between the New Shellharbour Hospital site and the Shellharbour Zone Substation. Where ever possible, the conduits are to be separated to either side of the electricity alignment to reduce the risk of future excavation striking both cables.
- Excavation methodology is expected to be:
  - o Trench 750mm deep and 1200mm wide
  - o Trench a further two individual trenches, 430mm deep (1180mm total depth) and 240mm wide
  - o Backfill the 430mm deep individual trenches with clean sand
  - Backfill the remainder of the trench with already excavated fill (assuming it ok to be put back and isn't contaminated etc.)
  - o Underbore existing New Shellharbour Rd as shown on the drawings (subject to utility feedback)
- Conduits and bedding sand shall be progressively installed, and trenches backfilled.
- Excavation width is nominally 1200mm wide. It is planned to be within the electricity alignment when in footways, within Endeavour Energy easement inside the site, and parallel to footway when crossing roads.
- In areas where spare conduits are used, conduit ends shall be excavated/uncovered to allow cable installation.
- Generally, up to 500m in length cable drums (depending on availability) shall be set up in footway/verges and cable segments pulled between jointing sand pits.
- In ground HV cable jointing shall occur between each segment to complete the circuit.
- HV cables shall be installed into the zone substation via underground cable ducts and trenches. Cables are to be terminated onto HV switchgear, nominated by Endeavour Energy, within the zone substation.



- Restoration of footpaths and driveways shall occur along the route, once cabling is installed.
- A flat easement area of 5.5m x 2.75m shall be created on the NSH to install the construction power kiosk substation. The easement shall be adjacent to the boundary to allow 24-7 access by Endeavour Energy.
- The full kiosk easement area shall be excavated and a cable culvert installed.
- Cabling to be installed beneath the kiosk substation and terminated onto the switchgear
- A flat area of 2m x 2.75m shall be created for a Site Main Switchboard (MSB) to be installed adjacent to the kiosk substation.
- The site MSB area shall be excavated and conduit and LV cables installed between the kiosk substation and MSB.
- Further excavation between the Site MSB and the proposed builder's compound area shall occur. LV conduits will be installed to supply the builder's compound area.
- The kiosk substation and MSB shall be installed above their respective culvert and plinths.
- The entire electrical system shall be commissioned and energised to relevant Australian Standards and Endeavour Energy's requirements.

## OTHER SERVICES AFFECTED BY THE WORKS

All planned works are within the electricity alignments, known roads or within the site. As such, the works are not planned to affect any other services that will require relocation.

All works are planned on HV segments supplied in multiple directions through a ring main arrangement. It is anticipated that no disruptions shall be experienced past the routine everyday switching of the network. These activities are common, are completed regularly through normal network maintenance activities, and will be done by Endeavour Energy.

If any unexpected interruption is required, these shall be carried out as night works per normal utility processes. Should you have any questions please do not hesitate to contact the undersigned.

Yours sincerely,

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Director

