


Email comments from Endeavour Energy – 18 November 2020

I refer to the your below email of 4 November 2020 regarding Planning Proposal PP005 [Council ref. 49462E (D20/432478)] which seeks to resolve the long term development potential of land within the 'Crams Road Urban Release Area' at Warrah Road, Bangalee (Lots 21, 22, 23 & 24 DP 714096) that was deferred from Shoalhaven Local Environmental Plan (LEP) 2014. The land is currently zoned Rural 1(d) General Rural under Shoalhaven LEP 1985. The land is proposed to be rezoned to a mix of E2 - Environmental Conservation, RU2 - Rural Landscape and R2 - Low Density Residential.

As shown in the below site plans from Endeavour Energy's G/Net master facility model (and extracts from Google Maps Street View) there is over:

- Easements benefitting Endeavour Energy (indicated by red hatching; the blue hatching indicates a 'Retired Property' / released easement) for:
 - 132,000 volt / 132 kilovolt (kV) high voltage overhead power lines to the eastern side of Lot 24 DP 714096 .
 - Low voltage and 11,000 volt / 11 kV high voltage overhead power lines over Lots 21 and 22 DP 714096 including pole mounted substation no. 51469 (indicated by the symbol ). The low voltage overhead power lines extend beyond the easement to provide the low voltage overhead service conductors and customer connection points for the existing dwellings.
- Low voltage and 11 kV high voltage overhead power lines to the Warrah Road road verge / roadway.

Please note the location, extent and type of any electricity infrastructure, boundaries etc. shown on the plan is indicative only. In addition it must be recognised that the electricity network is constantly extended, augmented and modified and there is a delay from the completion and commissioning of these works until their capture in the model. Generally (depending on the scale and/or features selected), low voltage (normally not exceeding 1,000 volts) is indicated by blue lines and high voltage (normally exceeding 1,000 volts but for Endeavour Energy's network not exceeding 132,000 volts / 132 kV) by red lines (these lines can appear as solid or dashed and where there are multiple lines / cables only the higher voltage may be shown). This plan only shows the Endeavour Energy network and does not show electricity infrastructure belonging to other authorities or customers owned electrical equipment beyond the customer connection point / point of supply to the property. This plan is not a 'Dial Before You Dig' plan under the provisions of Part 5E 'Protection of underground electricity power lines' of the *Electricity Supply Act 1995* (NSW).

In regard to the low voltage overhead power lines traversing the site for which Endeavour Energy does not have an easement, they are protected assets and deemed to be lawful for all purposes under Section 53 'Protection of certain electricity works' of the *Electricity Supply Act 1995* (NSW). Essentially this means the owner or occupier of the land cannot take any action in relation to the presence in, on or over the land of electricity works ie. the service mains cannot be removed to rectify the encroachment. These protected assets are managed as if an easement is in place – please refer to the below point 'Easement Management / Network Access'

In accordance with Endeavour Energy's Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights', as shown in the following extract of Table 1 – 'Minimum easement widths', the low voltage overhead power lines requires a 9 metre minimum easement width ie. 4.5 metres to both sides of the centre line of the poles / conductors.

Table 1 - Minimum easement widths

| | Voltage | Asset Type | Construction | Minimum Easement (m) |
|-----------------|-----------|-------------------|--------------|----------------------|
| Overhead Assets | 400V–22kV | Bare Construction | All | 9 |
| | | ABC | | |
| | | CCT | | |

ABC = Aerial Bundled Cables CCT = Covered Conductor Thick

This easement width in some circumstances may not be warranted ie. depending on the span, type of conductor, access, small lot urban development etc. However as a minimum any buildings, structures (including fencing, signage, flag poles etc.) whether temporary or permanent must comply with the minimum safe distances / clearances for voltages up to and including 132,000 volts (132 kV) as specified in:

- Australian/New Zealand Standard AS/NZS 7000 – 2016: 'Overhead line design' as updated from time to time.
- 'Service and Installation Rules of NSW' which can be accessed via the following link to the Energy NSW website:

<https://energy.nsw.gov.au/government-and-regulation/legislative-and-regulatory-requirements/service-installation-rules> .

These distances must be maintained at all times to all buildings and structures and regardless of the Council's allowable building setbacks etc. under its development controls. As a guide please find attached a copy of Endeavour Energy Drawing 86232 'Overhead Lines Minimum Clearances Near Structures'.

Subject to the foregoing and the following recommendations and comments Endeavour Energy has no objection to the Planning Proposal.

- Network Capacity / Connection

Endeavour Energy has noted that the Planning Proposal does not appear to address in detail the suitability of the site for the development in regard to whether electricity services are available and adequate for the development or the impact on the existing easements and electricity infrastructure on an in the vicinity of the site.

Direction 3.1 Residential Zones

This Direction applies as the PP proposes the rezoning of land for residential purposes. The subject land is proposed to be identified as a URA under Shoalhaven LEP 2014, which contains requirements for residential development to provide appropriate public utility infrastructure under Part 6 Urban Release Areas (URA). The PP is considered to be consistent with this direction.

The availability of electricity supply to a site is based on a wide range of factors eg. the age and design of the network; other development in the locality utilising previously spare capacity within the local network; the progress of nearby / surrounding sites including electricity infrastructure works eg. a smaller and isolated development that may not of its own accord require a substation may require a substation to facilitate the development and from which the spare capacity is made available to subsequent nearby development.

Distribution substations are required to transform the high voltage of the distribution feeder (usually at 11,000 volts / 11 kV) to the secondary system voltage (400/230 volts) to supply customers / developments. Distribution substations are divided into ground mounted substations most commonly being a padmount substations installed a complete unit on a concrete foundation / plinth and usually associated with underground distribution and pole mounted substations where there is overhead distribution.

Pole mounted substations have comparatively limited capacity of 25 kilovolt amperes (kVA) up to a maximum of 400 kVA. Padmount substations can accommodate loads from 315 kVA up to 1,500 kVA (typically 500 kVA). Accordingly there is a significant variation in the number and type of premises able to be connected to a substation ie. a single distribution substation may serve one large building, or many homes.

Whilst pole mounted substation no. 51469 located on the site is likely to have some spare capacity, it is not intended or capable of facilitating a significant urban residential subdivision. As well as the capacity of distribution substations, other factors such as the size and rating / load on the conductors and voltage drop (which can affect the quality of supply particularly with long conductor runs) etc. need to be assessed.

Accordingly an extension and / or augmentation of the existing local network will be required. However the extent of the works will not be determined until the final load assessment is completed. Endeavour Energy's preference is to alert proponents / applicants (and Council) of the potential matters that may arise as further development of areas continues to occur.

In due course the applicant for the proposed development of the site will need to submit an application for connection of load via Endeavour Energy's Network Connections Branch to carry out the final load assessment and the method of supply will be determined. Depending on the outcome of the assessment, any required padmount substation/s will need to be located within the property (in a suitable and accessible location) and be protected (including any associated cabling) by an easement and associated restrictions benefiting and gifted to Endeavour Energy. Please refer to the attached copy of Endeavour Energy's Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights'.

Further details are available by contacting Endeavour Energy's Network Connections Branch via Head Office enquiries on business days on telephone: 133 718 or (02) 9853 6666 from 9am - 4:30pm or on Endeavour Energy's website under 'Home > Residential and business > Connecting to our network' via the following link:

<http://www.endeavourenergy.com.au/> .

Advice on the electricity infrastructure required to facilitate the proposed development (including asset relocation / removal) can be obtained by submitting a Technical Review Request to Endeavour Energy's Network Connections Branch, the form for which FPJ6007 is attached and further details (including the applicable charges) are available from Endeavour Energy's website under 'Our connection services'. The response to these enquiries is based upon a desktop review of corporate information systems, and as such does not involve the engagement of various internal stakeholders in order to develop a 'Connection Offer'. It does provide details of preliminary connection requirements which can be considered by the applicant prior to lodging a formal application for connection of load.

Alternatively the applicant may need to engage an ASP of an appropriate level and class of accreditation to assess the electricity load of the proposed development. The ASP scheme is administered by Energy NSW and details are available on their website via the following link or telephone 13 77 88:

<https://energy.nsw.gov.au/government-and-regulation/legislative-and-regulatory-requirements/asp-scheme-and-contestable-works> .

Endeavour Energy is urging applicants /customers to engage with an Electrical Consultant prior to finalising plans to in order to assess and incorporate any required electricity infrastructure. In so doing the consideration can also be given to its impact on the other aspects of the proposed development. This can assist in avoiding the making of amendments to the plan or possibly the need to later seek modification of an approved development application. In this instance the Architectural Plans do not appear to show any provision for the replacement of the existing substations on the site.

- Subdivision of Easements

Endeavour Energy's preference is to have continuity of its easements over the most direct and practicable route affecting the least number of lots as possible. Therefore, except in special circumstances such as a staged or facilitating subdivision, it generally does not support the subdivision of easements (even in part) and their incorporation into to multiple / privately owned lots. The incorporation of electricity easements into privately owned lots is generally problematic for both Endeavour Energy and the landowner and requires additional easement management to ensure no uncontrolled activities / encroachments occur within the easement.

Dissecting the easement along its route results in restriction of access eg. every lot being potentially fenced on both sides, multiple gates / openings would be required to ensure contiguous / ready access (please also refer to the below point 'Network Access'). This is particularly important where there are poles or structures and changes in direction to a line route. This is particularly important where there are poles or towers as in the event of fallen conductors, access to the restring overhead power lines will be required by electricity workers with heavy vehicles, machinery and materials essential for restoring electricity supply.

If there is no reasonable alternative option, in subdividing an easement consideration must be given to minimising the impact on the easement rights. The subdivision of an easement in width / parallel to the overhead power lines or underground cables is generally not permitted. The number and length of crossings should be kept to a minimum eg. crossings should be or close to perpendicular to the overhead power lines or underground cables and must be at least half the easement width beyond any pole or structure. Easements for other types of electricity

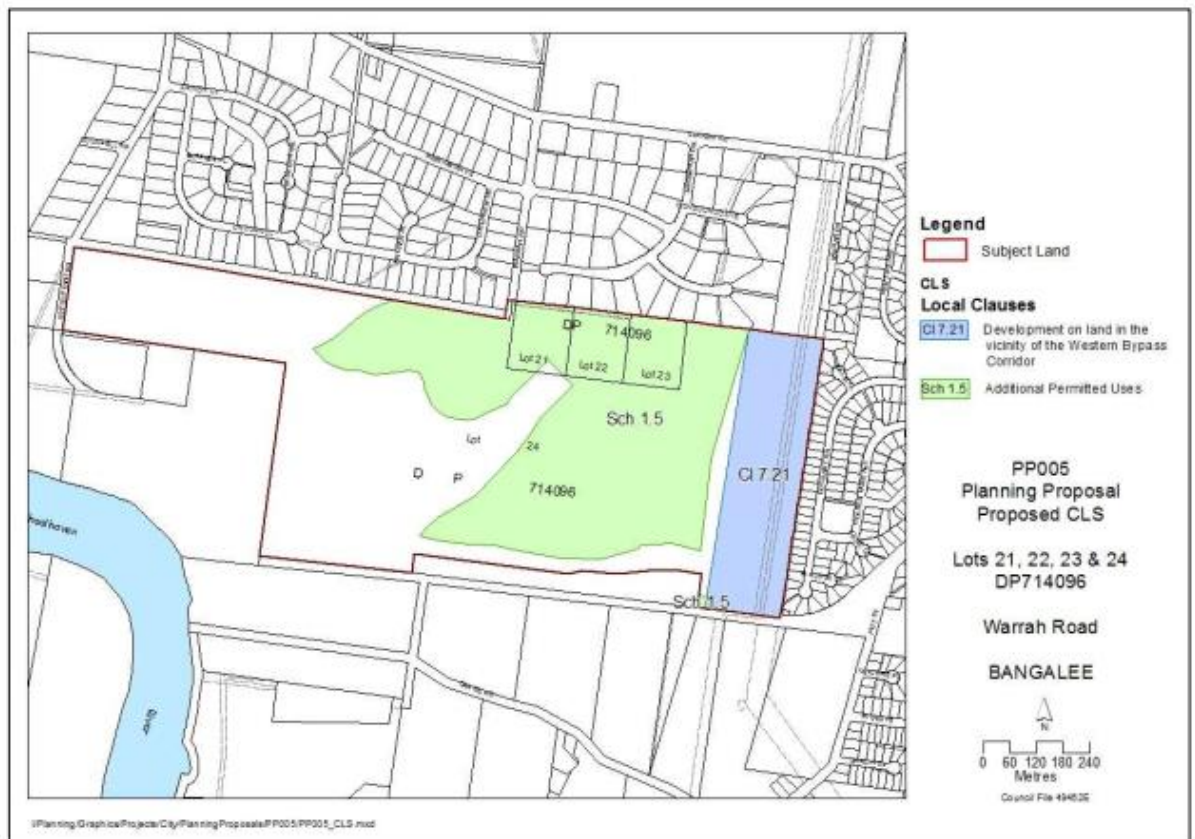
infrastructure such as padmount substations or switching stations shall not be subdivided but any associated restriction or right of access etc. may encumber and adjoining lot.

However , if the subdivision does result in the incorporation of Endeavour Energy's easement into multiple lots, not only must the easements, rights and restrictions, covenants etc. be retained over the encumbered lots and in accordance with the requirements of NSW Land Registry Services (LRS),but Endeavour Energy may need to include additional requirements / restrictions to be registered on titles to each of the lots to ensure it can reasonably access and manage its existing electricity infrastructure within the easement.

In other Council areas this form of subdivision, particularly in more sensitive zonings / land uses, is actually discouraged as shown in the following extract of Camden Council's development control plan. Accordingly Endeavour Energy's recommendation is that whenever reasonably possible, easements be entirely incorporated into public reserves and not burden private lots. The adoption of these measures is also generally in keeping with Endeavour Energy's policy of prudent avoidance – please refer to the corresponding point below.

| C7.2 Neighbourhood and Subdivision Design | | |
|--|--|---|
| <i>Electricity easements are to be incorporated in public road reserves and shall not burden private lots.</i> | The proposed electricity easements are located within the public road reserve. No electricity easements burden the private lots. | ✓ |

In regard to the easement for 132 kV overhead power lines to the eastern side of Lot 24 DP 714096, Endeavour Energy has noted the Planning Proposal includes Figure 13 'Proposed Local Clauses Overlay'.



The easement for 132 kV overhead power lines the Western Bypass Corridor and the Planning Proposal indicates the proposal is to include this area to an RU2 Rural Landscape zone (for which there is no Minimum Lot Size Overlay?).

Clause 7.21 'Development on land in the vicinity of the Western Bypass Corridor' of Shoalhaven Local Environmental Plan 2014 states the following:

Shoalhaven Local Environmental Plan 2014

7.21 Development on land in the vicinity of the Western Bypass Corridor

- (1) The objectives of this clause are as follows—
 - (a) to minimise any visual or acoustic impacts on development proposed in the vicinity of the land to which this clause applies,
 - (b) to ensure that development proposed in the vicinity of that land will not compromise, restrict or otherwise prevent the future use of that land as a road.
- (2) This clause applies to land identified as "CL 7.21" on the Clauses Map.
- (3) Despite any other provision of this Plan, development consent must not be granted for development on land in the vicinity of the land to which this clause applies unless the consent authority has assessed the following—
 - (a) the impact of noise, vibrations and other emissions from any future construction and the ongoing use of that land as a road,
 - (b) if the proposed development is a subdivision of land—whether or not the development would prejudice or otherwise restrict the future construction (including the provision of any public utility infrastructure) and operation of the proposed road.

In this instance any proposed development must also consider the impact on the existing easement and overhead power lines.

In regard to the easement for 11 kV overhead power lines over Lots 21 and 22 DP 714096, any further proposed subdivision of these lots is likely to require the undergrounding / relocation of

the existing overhead power lines and the release of easement – please refer to the below points ‘Network Asset Design’ and ‘Easement Release’ respectively.

- Easement Release

Under Endeavour Energy’s Company Policy 9.2.3 ‘Property Tenure for Network Assets’, the company will assess all applications for the release of easements to identify and manage risks to its network, commercial and community interests. The company may seek compensation for the extinguishment of property tenure. No easement is considered to be redundant or obsolete until it is released under this policy.

Applications for the release / extinguishment of an easement can only be made by the registered landowners of the encumbered property and are usually done either:

- As part of an application for connection of load or capital works project for a development project eg. where alternative / new network arrangements are to be put in place, which is managed by Endeavour Energy’s Network Connections Branch. Endeavour Energy’s Network Connections Branch will make the applicant or their ASP aware of Endeavour Energy’s requirements for the release of easement. Please refer to the above point ‘Network Capacity / Connection’.
- At the request of landowners where the electrical assets within the easement have been removed or it has become apparent that the easement has possibly become redundant to Endeavour Energy’s future network requirements eg. no electrical assets have ever been installed in the easement. Further details are available by contacting Endeavour Energy’s Property Services Section via Head Office enquiries on business days on telephone: 133 718 or (02) 9853 6666 from 9am - 4:30pm or email network_property@endeavourenergy.com.au (underscore between ‘network’ and ‘property’). The greater amount of detail provided will assist in the assessment of the application.

- Network Asset Design

Endeavour Energy’s Company Policy 9.2.5 ‘Network Asset Design’, includes the following requirements for electricity connections to new urban subdivision / development:

5.11 Reticulation policy

5.11.1 Distribution reticulation

In order to improve the reliability performance of and to reduce the operating expenditure on the network over the long term the company has adopted the strategy of requiring new lines to be either underground cables or where overhead is permitted, to be predominantly of covered or insulated construction. Notwithstanding this strategy, bare wire overhead construction is appropriate and permitted in some situations as detailed below.

In areas with the potential for significant overhanging foliage, CCT is used to provide increased reliability as it is less susceptible to outages from wind-blown branches and debris than bare conductors. CCT must only be used in treed² areas as the probability of a direct lightning strike is low. In open areas where the line is not shielded from a direct lightning strike, bare conductors must generally be used for 11kV and 22kV reticulation.

Non-metallic Screened High Voltage Aerial Bundled Cable (NMSHVABC) must be used in areas which are heavily treed and where it is not practicable to maintain a tree clearing envelope around the conductors.

² A "treed" area is one with a substantial number of trees adjacent to the line, in each span. In these situations CCT is used to provide increased reliability as it is less susceptible to outages from wind-blown

5.11.1.1 Urban areas

Reticulation of new residential subdivisions will be underground. In areas of low bushfire consequence, new lines within existing overhead areas can be overhead, unless underground lines are cost justified or required by either environmental or local council requirements.

Where underground reticulation is required on a feeder that supplies a mixture of industrial, commercial and/or residential loads, the standard of underground construction will apply to all types of load within that development.

Where ducting is used, adequate spare ducts and easements must be provided at the outset to cover the final load requirements of the entire development plan.

Extensions to the existing overhead 11kV/22kV network must generally be underground. Bare wire will be used for conductor replacements and augmentations except in treed areas where CCT or NMSHVABC must be used.

Extensions to the existing overhead LV network and augmentations must either be underground or ABC. Conductor replacements greater than 100m in route length must utilise aerial bundled cable.

- Bushfire

Endeavour Energy has noted that the Planning Proposal indicates 'The majority of the area to which this PP applies is bushfire prone'. The accompanying Bushfire Constraints Assessment Issued on 16.06.2014 does not assesses the Planning Proposal against the current NSW Rural Fire Service 'Planning for Bush Fire Protection 2019' which provides the following advice regarding electricity services:

5.3.3 Services – Water, electricity and gas

Intent of measures: to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building.

Table 5.3c

Performance criteria and acceptable solutions for water, electricity and gas services for residential and rural residential subdivisions.

| PERFORMANCE CRITERIA | | ACCEPTABLE SOLUTIONS | |
|-----------------------------------|--|--|--|
| The intent may be achieved where: | | | |
| ELECTRICITY SERVICES | ➤ location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings. | ➤ where practicable, electrical transmission lines are underground; | |
| | | ➤ where overhead, electrical transmission lines are proposed as follows: ➤ lines are installed with short pole spacing of 30m, unless crossing gullies, gorges or riparian areas; and ➤ no part of a tree is closer to a power line than the distance set out in ISSC3 <i>Guideline for Managing Vegetation Near Power Lines</i> . | |

The following is an extract of Endeavour Energy's Company Policy 9.1.1 Bushfire Risk Management:

9.1.1 BUSHFIRE RISK MANAGEMENT

1.0 POLICY STATEMENT

The company is committed to the application of prudent asset management strategies to reduce the risk of bushfires caused by network assets and aerial consumer mains to as low as reasonably practicable (ALARP) level. The company is also committed to mitigating the associated risk to network assets and customer supply reliability during times of bushfire whilst achieving practical safety, reliability, quality of supply, efficient investment and environmental outcomes. The company is committed to compliance with relevant acts, regulations and codes.

Accordingly the electricity network required to service the proposed development must be fit for purpose and meet the technical specifications, design, construction and commissioning standards based on Endeavour Energy's risk assessment associated with the implementation and use of the network connection / infrastructure for a bushfire prone site. In assessing bushfire risk, Endeavour Energy has traditionally focused on the likelihood of its network starting a bushfire, which is a function of the condition of the network. Risk control has focused on reducing the likelihood of fire ignition by implementing good design and maintenance practices. However the potential impact of a bushfire on its electricity infrastructure and the safety risks associated with the loss of electricity supply are also considered.

- Earthing

The construction of any building or structure (including fencing, signage, flag poles, hoardings etc.) whether temporary or permanent that is connected to or in close proximity to Endeavour Energy's electrical network is required to comply with Australian/New Zealand Standard AS/NZS 3000:2018 'Electrical installations' as updated from time to time. This Standard sets out requirements for the design, construction and verification of electrical installations, including ensuring there is adequate connection to the earth. It applies to all electrical installations including temporary builder's supply / connections.

Inadequate connection to the earth to allow a leaking / fault current to flow into the grounding system and be properly dissipated places persons, equipment connected to the network and the electricity network itself at risk from electric shock, fire and physical injury. The earthing system is usually in the form of an earth electrode consisting of earth rods or mats buried in the ground. It should be designed by a suitably qualified electrical engineer / ASP following a site-specific risk assessment having regard to the potential number of people could be simultaneously exposed, ground resistivity etc.

For details of the ASP scheme please refer to the above point 'Network Capacity / Connection'.

In particular appropriate consideration should be provided to the conductivity of the fencing within an easement or in proximity of electricity infrastructure (particularly with overhead power lines which may fall as a result of storm damage or accidental strikes) where there is a possibility it could act as a conductor of electricity and dangerous currents may be carried along the fence. Where conductive / metal fencing is used it must be appropriately earthed eg. the by the use of isolation panels where the fence enters or exits the easement created by the use of timber posts and/or earth electrode installed adjacent to the easement or overhead power lines.

- Easement Management / Network Access

The following is a summary of the usual / main terms of Endeavour Energy's electrical easements requiring that the landowner:

- Not install or permit to be installed any services or structures within the easement site.
- Not alter the surface level of the easement site.
- Not do or permit to be done anything that restricts access to the easement site without the prior written permission of Endeavour Energy and in accordance with such conditions as Endeavour Energy may reasonably impose.

Endeavour Energy's preference is for no activities or encroachments to occur within its easements. However, if any proposed works (other than those approved / certified by Endeavour Energy's Network Connections Branch as part of an enquiry / application for load or asset relocation project) will encroach / affect Endeavour Energy's easements or protected assets, contact must first be made with the Endeavour Energy's Easements Officer, Jennie Saban, on business days on mobile 0417484402 or alternately via email Jennie.Saban@endeavourenergy.com.au or Easements@endeavourenergy.com.au .

Please find attached for the applicant's reference copies of Endeavour Energy's:

- Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights' which deals with activities / encroachments within easements.
- General Restrictions for Overhead Power Lines.
- Guide to Fencing, Retaining Walls and Maintenance Around Padmount Substations.

It is imperative that the access to the existing electrical infrastructure on and in proximity of the site be maintained at all times. To ensure that supply electricity is available to the community, access to the electricity infrastructure may be required at any time. Restricted access to electricity infrastructure by maintenance workers causes delays in power restoration and may have severe consequences in the event of an emergency.

- Prudent Avoidance

The electricity industry has adopted a policy of prudent avoidance by doing what can be done without undue inconvenience and at modest expense to avert the possible risk to health from exposure to emissions from electricity infrastructure such as electric and magnetic fields (EMF) and noise which generally increase the higher the voltage ie. Endeavour Energy's network ranges from low voltage (normally not exceeding 1,000 volts) to high voltage (normally exceeding 1,000 volts but not exceeding 132,000 volts / 132 kV).

In practical terms this means that when designing new transmission and distribution facilities, consideration is given to reducing exposure and increasing separation distances to more sensitive uses such as residential or schools, pre-schools, day care centres or where potentially a greater number of people are regularly exposed for extended periods of time.

These emissions are usually not an issue but with Council's permitting or encouraging development with higher density, reduced setbacks and increased building heights, but as the electricity network operates 24/7/365 (all day, every day of the year), the level of exposure can increase.

Endeavour Energy believes that irrespective of the zoning or land use, applicants (and Council) should also adopt a policy of prudent avoidance by the siting of more sensitive uses eg. the office component of an industrial building, away from and less susceptible uses such as garages, non-habitable or rooms not regularly occupied eg. storage areas in a commercial building, towards any electricity infrastructure – including any possible future electricity infrastructure required to facilitate the proposed development.

Where development is proposed near electricity infrastructure, Endeavour Energy is not responsible for any amelioration measures for such emissions that may impact on the nearby proposed development.

Please find attached a copy of Energy Networks Association's 'Electric & Magnetic Fields – What We Know' which can also be accessed via their website at

<https://www.energynetworks.com.au/electric-and-magnetic-fields> and provides the following advice:

Electric fields are strongest closest to their source, and their strength diminishes rapidly as we move away from the source.

The level of a magnetic field depends on the amount of the current (measured in amps), and decreases rapidly once we move away from the source.

Typical magnetic field measurements associated with Endeavour Energy's activities and assets given the required easement widths, safety clearances etc. and having a maximum voltage of 132,000 volt / 132 kV, will with the observance of these separation distances not exceed the recommended magnetic field public exposure limits.

- **Vegetation Management**

The planting of large trees near electricity infrastructure is not supported by Endeavour Energy. Particularly for overhead power lines, ongoing vegetation management / tree trimming is a significant network cost and falling trees and branches during storms are a major cause of power outages.

Suitable planting needs to be undertaken in proximity of electricity infrastructure (including any new electricity infrastructure required to facilitate the proposed development). Only low growing shrubs not exceeding 3.0 metres in height, ground covers and smaller shrubs, with non-invasive root systems are the best plants to use. Larger trees should be planted well away from electricity infrastructure (at least the same distance from overhead power lines as their potential full grown height) and even with underground cables, be installed with a root barrier around the root ball of the plant.

Landscaping that interferes with electricity infrastructure may become a potential safety risk, cause of bush fire, restrict access, reduce light levels from streetlights or result in the interruption of supply. Such landscaping may be subject to Endeavour Energy's Vegetation Management program and/or the provisions of the Electricity Supply Act 1995 (NSW) Section 48 'Interference with electricity works by trees' by which under certain circumstances the cost of carrying out such work may be recovered.

Endeavour Energy's recommendation is that existing trees which are of low ecological significance in proximity of overhead power lines be replaced and any proposed planting of new trees within in the proximity of overhead power lines be replaced by an alternative smaller planting to ensure appropriate clearances are maintained whilst minimising the need for future pruning.

- **Dial Before You Dig**

Before commencing any underground activity the applicant is required to obtain advice from the **Dial Before You Dig 1100** service in accordance with the requirements of the Electricity Supply Act 1995 (NSW) and associated Regulations. This should be obtained by the applicant not only to identify the location of any underground electrical and other utility infrastructure across the site, but also to identify them as a hazard and to properly assess the risk.

- **Removal of Electricity Supply**

Approval for the permanent disconnection and removal of supply must be obtained from Endeavour Energy's Network Connections Branch (contact via Head Office enquiries on business days on telephone: 133 718 or (02) 9853 6666 from 9am - 4:30pm) by Accredited Service

Providers (ASP) with the relevant class of Authorisation for the type of work being carried out. The work could involve:

- The disconnection and removal of an underground service cable or overhead service line,
- Removal of metering equipment.

The written request must be submitted to Endeavour Energy using Form FPJ4603 'Permission to Remove Service / Metering by Authorised Level 2 Accredited Service Provider' which must be accompanied by Notification of Service Works (NOSW) forms provided as a result of service work activity performed by a Level 2 ASP. The retailer must also provide written agreement for the permanent removal of supply.

For details of the ASP scheme please refer to the above point 'Network Capacity / Connection'.

- Demolition

Demolition work is to be carried out in accordance with Australian Standard AS 2601—2001: 'The demolition of structures' as updated from time to time. All electric cables or apparatus which are liable to be a source of danger, other than a cable or apparatus used for the demolition works shall be disconnected ie. the existing customer service lines will need to be isolated and/or removed during demolition. Appropriate care must be taken to not otherwise interfere with any electrical infrastructure on or in the vicinity of the site eg. streetlight columns, power poles, overhead power lines and underground cables etc.

- Site Remediation

Endeavour Energy has noted that the Stage 1 Contamination Assessment does not identify the electricity infrastructure on or in vicinity of the site which is likely to become redundant assets as a result of the proposed development as potential areas of environmental concern (AEC) and associated contaminants of potential concern (COPC).

Endeavour Energy's Environmental Business Partner section have advised that the remediation of soils or surfaces impacted by various forms of electricity infrastructure is not uncommon but is usually not significant eg. transformer oil associated with leaking substations, pole treatment chemicals at the base of timber poles etc. The method of remediation is generally the removal of the electricity infrastructure, removal of any stained surfaces or excavation of any contaminated soils and their disposal at a licensed land fill. The decommissioning and removal of the redundant electricity infrastructure will be dealt with by Endeavour Energy's Network Connections Branch as part of the application for the connection of load for the new development – please refer to the above point 'Network Capacity / Connection'.

If the applicant has any concerns over the remediation works related to redundant electricity infrastructure they should contact Environmental Business Partner section via Head Office enquiries on business days on telephone: 133 718 or (02) 9853 6666 from 9am - 4:30pm.

- Public Safety

Workers involved in work near electricity infrastructure run the risk of receiving an electric shock and causing substantial damage to plant and equipment. I have attached Endeavour Energy's public safety training resources, which were developed to help general public / workers to understand why you may be at risk and what you can do to work safely. The public safety training resources are also available via Endeavour Energy's website via the following link:

<http://www.endeavourenergy.com.au/wps/wcm/connect/ee/nsw/nsw+homepage/communitynav/safety/safety+brochures> .

If the applicant has any concerns over the proposed works in proximity of the Endeavour Energy's electricity infrastructure to the road verge / roadway, as part of a public safety initiative Endeavour Energy has set up an email account that is accessible by a range of stakeholders across the company in order to provide more effective lines of communication with the general public who may be undertaking construction activities in proximity of electricity infrastructure such as builders, construction industry workers etc. The email address is Construction.Works@endeavourenergy.com.au .

- Emergency Contact

In case of an emergency relating to Endeavour Energy's electrical network, the applicant should note the Emergencies Telephone is 131 003 which can be contacted 24 hours/7 days. Endeavour Energy's contact details should be included in any relevant risk and safety management plan.

I appreciate that not all the foregoing issues may be directly or immediately relevant or significant to the Planning Proposal. However, Endeavour Energy's preference is to alert proponents / applicants of the potential matters that may arise should development within closer proximity of the existing and/or required electricity infrastructure needed to facilitate the proposed development on or in the vicinity of the site occur.

Could you please pass on a copy of this submission and the attached resources to the applicant? Should you wish to discuss this matter, or have any questions, please do not hesitate to contact me or the contacts identified above in relation to the various matters. Due to the high number of development application / planning proposal notifications submitted to Endeavour Energy, to ensure a response contact by email to property.development@endeavourenergy.com.au is preferred.

With the current COVID-19 health risk, as many as possible of Endeavour Energy staff are working from home. As a result there is only a small contingent located at the Huntingwood head office for essential operations. Although working from home, access to emails and other internal stakeholders is now somewhat limited and as a result it may take longer than usual to respond to enquiries. Thank you for your understanding during this time.

Kind regards
Cornelis Duba
Development Application Specialist
Network Environment & Assessment
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132 kV high voltage overhead power lines to the eastern side of Lot 24 DP 714096.



Low voltage and 11 kV high voltage overhead power lines over Lots 21 and 22 DP 714096.