

The Secretary
NSW Department of Planning, Industry and Environment

26 November 2020

ATTENTION: Brent Devine, Social & Infrastructure Assessments

Dear Sir or Madam

I refer to the Department's below email of 24 November 2020 regarding the Environmental Impact Statement (EIS) for State Significant Development SSD-10445 Al-Faisal College Redevelopment and Expansion for alterations and additions to an existing school (kindergarten to year 12) at 83-87 Gurner Avenue, Austral, for use as a primary school only and construction of a new secondary school campus at 66 and 80 Gurner Avenue (Lot 9 DP 1207216, Lot 14 DP 831988, Lot 37 DP 3403, Lot 1 DP 1243351, Part Lot 1 DP 749642) in the Liverpool City Local Government Area (LGA). Submissions need to be made to the Department by 29 January 2021.

Please refer to Endeavour Energy's submission made to the Department's on 14 April 2020 regarding the request for Secretary's Environmental Assessment Requirements (SEARs) for State Significant Development SSD 10445 Al-Faisal College Redevelopment and Expansion. The recommendations and comments provided therein remain valid for the EIS.

Endeavour Energy's further recommendations and comments are as follows:

- Network Capacity / Connection

Endeavour Energy has noted that the Building Services Engineering Design Intent Report in Section 4 'Electrical Design Services' indicates that from an Endeavor Energy's assessment (is attached as an appendix but not included in either of the two copies uploaded to the Department's portal):

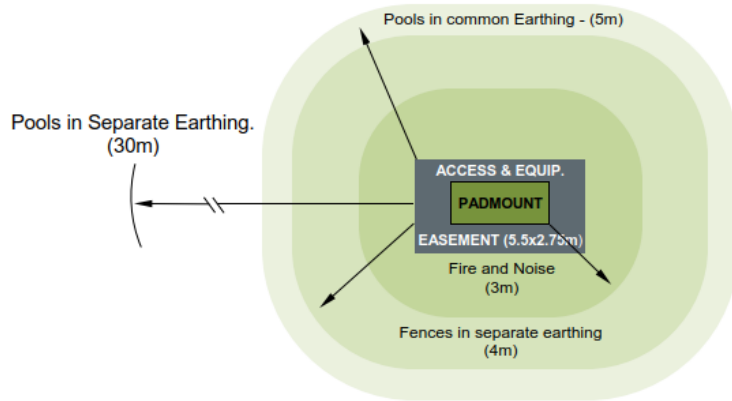
- A new high voltage feeder will be required to be reticulated to site from the North Leppington Zone substation [located at 23 St Andrews Road Leppington (Lot 2 DP 1181417) approximately 9.8 kilometres by road to the south.
- Primary School Campus it is anticipated that one 1500 kVA pad mounted kiosk substation is required
- Secondary School Campus it is anticipated that two pad mounted kiosk substation are required

From Endeavour Energy's perspective the fact that provision is being made for the substations is a positive. Endeavour Energy's general requirements is for a padmount substations be at ground level and have direct access from a public street (unless provided with a suitable easement for the associated underground cables and right of access).

As shown in the following Figure A4.3 'Padmount easements and clearances', from Endeavour Energy's Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights', padmount substations require:

- Easement with a minimum size of 2.75 x 5.5 metres (single transformer)
- Restriction for fire rating which usually extends 3 metres horizontally from the base of the substation footing and 6 metres vertically from the same point.
- Restriction for swimming pools which extends 5 metres from the easement.

A4.3 - Padmount easements and clearances



Generally it is the Level 3 Accredited Service Provider's (ASP) responsibility (engaged by the developer) to make sure that the substation location and design complies with Endeavour Energy's standards the suitability of access, safety clearances, fire ratings, flooding etc. As a condition of the Development Application consent the Department should request the submission of documentary evidence from Endeavour Energy confirming that satisfactory arrangements have been made for the connection of electricity and the design requirements for the substation, prior to the release of the Construction Certificate / commencement of works.

Endeavour Energy is urging applicants /customers to engage with an Electrical Consultant prior to submitting plans in order to assess and incorporate any required electricity infrastructure. Whilst in this instance provision has been made for padmount substations on the site, consideration also needs to be given to its impact on the other aspects of the proposed development ie. most activities are prohibited within the padmount substation easement. For this reason it is important that whenever possible all the plans show the proposed substation location (easement and restrictions) as well as any associated conductors.

- Flooding and Drainage

Endeavour Energy has noted that the flood Impact Assessment indicates that 'The results of this study indicate that both the primary and secondary school sites are affected by overland flow flooding'.

Endeavour Energy requires the electricity network needed to service an area / development to 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 flood prone site. Risk control has focused typically on avoiding the threat, but where this is not possible, reducing the negative effect or probability of flood damage to assets by implementing good design and maintenance practices.

Distribution substations should not be subject to flood inundation or stormwater runoff ie. the padmount substation cubicles are weatherproof not flood proof and the cable pits whilst designed to be self-draining should not be subject to excessive ingress of water. Section 7 'Substation and switching stations' of Endeavour Energy's Mains Construction Instruction MCI 0006 'Underground distribution construction standards manual' provides the following details of the requirements for flooding and drainage in new padmount substation locations.

7.1.6 Flooding and drainage

Substations are to be located such that the risk of flooding or stormwater damage is minimal.

As a minimum the level at the top of the transformer footing, HV and LV switchgear, shall not be lower than the 1:100 year flood level.

All drains within the substation site area or in the vicinity shall be properly maintained to avoid the possibility of water damage to Endeavour Energy's equipment.

In areas where, as determined by the Network Substation Manager, there is a high water table or a heightened risk of flooding, indoor substations will not be permitted.

All materials used in the construction below the substation (ground level) shall be capable of withstanding prolonged immersion in water without swelling or deterioration.



Figure 51 - Example substation raised above 1:100 flood level

- Prudent Avoidance

Endeavour Energy's Network Environment Assessment Section has provided the following additional advice regarding electric and magnetic fields (EMFs) associated with electricity infrastructure.

As far as Network Environment Assessment Section is aware there are no restrictions in legislation that stop schools, pre-schools, day care centres being placed next to electricity infrastructure.

In regard to the NSW Planning & Environment 'Child Care Planning Guideline' August 2017, other than Part 36 'Noise and air pollution' which refers to substations as a 'noisy environment', there is no specific requirement under the site selection and location criteria to consider proximity to electricity infrastructure although arguably a child care centre and electricity infrastructure are not a compatible use.

Prudent avoidance measures must however be implemented. Prudent avoidance was a policy recommended by former Chief Justice of the High Court of Australia, Sir Harry Gibbs, as a result of an inquiry he conducted into community needs and high voltage transmission lines including issues in relation to EMF back in 1991. The findings in the Gibbs report are consistent with subsequent inquiries and are still relevant today.

Prudent avoidance is defined as doing what can be done without undue inconvenience and at modest expense to avert the possible risk to health from exposure to new high voltage transmission facilities. In practical terms, this means designing new transmission and distribution facilities having regard to their capacity to produce EMFs, and siting them having regard to the proximity of houses, schools and the like.

Although the Gibbs report was particularly aimed at electricity distributors to consider when placing their infrastructure, and bearing in mind that there are schools, pre-schools, day care centres adjacent to our infrastructure in various locations right across our franchise area, it is nonetheless Endeavour Energy's recommendation it that such 'sensitive uses' not be built adjacent to major electricity infrastructure.

Should such a development proceed, the design of the schools, pre-schools, day care centres should also consider prudent avoidance measures such as any rooms which the children will occupy (class rooms, play areas, sleeping rooms, eating areas) be arranged such that they are on the side of the site/building which is furthest away from the electricity infrastructure.

There is scientific consensus that health effects have not been established but that the possibility cannot be ruled out. Accordingly, if there are any concerns regarding the location of the schools, pre-schools, day care centres in proximity to the electricity infrastructure, in order to make an informed conclusion, the applicant may need to commission an independent review to provide an overall assessment including electric and magnetic field measurement and advice. Applying a precautionary approach early on in the design process will hopefully result in the adoption of prudent avoidance principles benefitting the eventual development of the site.

Although not part of Endeavour Energy's electricity network, the applicant should consider wiring the new building and locating high electricity consuming devices away from areas occupied by children.

Endeavour Energy has noted the following in the Noise & Vibration Impact Assessment.

6.2.2 Mechanical Services

Mechanical plant selection and location will be finalised during the detailed design phase. At this stage, potentially noise generating equipment will be examined to ensure compliance with the project noise trigger levels for mechanical noise emissions both to surrounding residential properties and at sensitive receiver locations within the school itself.

Appropriate consideration should also be provided to the padmount substations required to facilitate the proposed development. The transformers in substations may emit a hum – especially when under heavy load say in the summer peak when use of air conditioning is at its highest. The noise is usually not perceptible enough to be regarded as disruptive and/or to the point where amelioration measures are required. However as noise levels can vary and people perceive sounds differently, to minimise any potential exposure to intrusive noise, the siting towards the electricity infrastructure of less sensitive uses such as garages or rooms not regularly occupied is recommended.

- Site Remediation

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.

Subject to the foregoing Endeavour Energy has no objection to the Development Application.

Again I appreciate that not all the foregoing issues may currently be directly relevant or significant to the Development Application. 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 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 easing of the COVID-19 health risk, whilst a significant number of Endeavour Energy staff are returning to the office, they are at times still working from home. Although working from home, access to emails and other internal stakeholders can still be somewhat limited and as a result it may take longer than usual to respond to enquiries. Thank you for your ongoing understanding during this time.

Yours faithfully

Cornelis Duba

Development Application Specialist

Network Environment & Assessment

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From: Erin White <Erin.White@planning.nsw.gov.au> **On Behalf Of** DPE PSVC Social and Other Infrastructure Mailbox
Sent: Tuesday, 24 November 2020 12:40 PM
To: Property Development <Property.Development@endeavourenergy.com.au>
Cc: Brent Devine <Brent.Devine@planning.nsw.gov.au>
Subject: Notice of Exhibition - Al-Faisal College Redevelopment and Expansion (SSD-10445) - Endeavour Energy



Planning,
Industry &
Environment

Attention: Mr Cornelis Duba
Development Application Specialist
Endeavour Energy

-via email-

property.development@endeavourenergy.com.au

Dear Mr Duba

The Department of Planning, Industry and Environment has received an Environmental Impact Statement (EIS) for the Al-Faisal College Redevelopment and Expansion (SSD-10445).

The EIS will be publicly exhibited from **Wednesday 25 November 2020** until **Friday 29 January 2021**.

All relevant documents may be viewed on the Department's website at:

<https://www.planningportal.nsw.gov.au/major-projects/projects/on-exhibition>.

The Department invites you to advise on the proposal, including advice on recommended conditions by **Friday 29 January 2021**.

If you have any enquiries, please contact Brent Devine on (02) 9995 5667 or via email at

Brent.Devine@planning.nsw.gov.au.

Kind regards

Erin White

DA Coordinator, Social & Infrastructure Assessments

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