


The Secretary
NSW Planning, Industry & Environment

4 December 2019

ATTENTION: Bruce Zhang, Acting Senior Environmental Assessment Officer

I refer to the Department's letter of 5 November 2019 regarding State Significant Development SSD-8375 at 57-69 Tattersall Road, Kings Park (Lot 100 DP 792731) for 'Pick n Payless Metal Recovery and Recycling Facility including processing and recycling of scrap metal (up to 130,000 tonnes per year), motor vehicles, heavy and light gauge metals and changes to the site layout'. Submissions need to be made to the Department by 4 December 2019.

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

- Easements over the site benefitting Endeavour Energy (indicated by red hatching) for:
 - Padmount substations no. 33257 and 36023 (indicated by the symbol  and associated low voltage and 11,000 volt / 11 kilovolt (kV) high voltage overhead power lines and 11 kV high voltage underground cables and underground earth cables. The overhead power lines and underground power cables exit the site and cross the road.
 - 11 kV high voltage and 33,000 volt / 33 kV high voltage overhead power lines to the southern / rear part of the site.
- A stay pole to the north western road verge which supports a pole on the opposite side of the road at the turning of the overhead power lines / bend in the road.
- At the closest point it is approximately 350 metres to the north west of Endeavour Energy's Kings Park Field Service Centre (depot) located at 10 Tasha Place Kings Park (Lot 13 DP 270493).

Please note the location, extent and type of any electricity infrastructure, boundaries etc. shown on the plan is indicative only. 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 Department's letter indicating 'You are being notified of the development as you have been identified as a neighbouring landowner/occupier', Endeavour Energy has noted that the various reports focus mainly on impacts at the sensitive / residential receptors which all appear to conclude that the development will the implementation of the recommended control / mitigation measures / will meet requirements and will not lead to any unacceptable level of environmental harm or impact. Whilst Endeavour Energy is not necessarily opposed to the Development Application, it will leave the determination regarding the environmental impact and the appropriate development controls to the Department.

Regarding Endeavour Energy's role as an electricity supply authority, subject to the following recommendations and comments, Endeavour Energy has no objection to the Development Application.

- Network Capacity / Connection

Endeavour Energy has that the Environmental Impact Statement (EIS) does not appear to address in detail if the electricity services are available and adequate for the proposed development.

Clause 7.5 Essential Services

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the development are available or that adequate arrangements have been made to make them available when required:

- (a) the supply of water,
- (b) the supply of electricity,
- (c) the disposal and management of sewage,
- (d) stormwater drainage or on-site conservation,
- (e) suitable vehicular access.

All services are currently in place at the site.

The site can be serviced by water, electricity, sewage, communications, vehicular access and stormwater management. Each service will be appropriately extended and upgraded as necessary.

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 distribution substation may require a substation to facilitate the development and from which the spare capacity is made available to subsequent nearby development. Areas of the network utilising padmount substations can accommodate loads from 315 kilovolt amperes (kVA) up to 1,500 kVA (typically 500 kVA) ie. there is a significant variation in the number and type of premises able to be connected to a substation.

Applicants should not automatically assume that the presence of existing low voltage service conductors or nearby similar development means that adequate supply is immediately available to facilitate their proposed development. Endeavour Energy's G/Net master facility model indicates that padmount substations no. 33257 and 36023 located on the site currently has 11 customer connection points servicing 21 premises – with 2 premises being the site.

Given the size and nature of the proposed development the existing local network is unlikely to have sufficient spare capacity to facilitate the proposed development. An extension and/or augmentation of the existing local network may still be required to facilitate the proposed development. This will not be determined until the final load assessment is completed. Endeavour Energy's preference is to alert proponents / applicants (and the Department) of the potential matters that may arise as further redevelopment of urban areas continues to occur.

Endeavour Energy's Asset Strategy & Planning Branch whilst not having undertaken a detailed analysis of the Development Application have provided the following advice:

From a planning point of view any increase in load will be dealt with through the network connections process. It is anticipated that the electrical load will be high, as per previous metal shredders located within the network. Therefore, it may require an upgrade of the existing padmount substations on the site as well as a new feeder to be established from Marayong Zone Substation located at 2-4 Raymond Street Blacktown to the eastern side of Sunnyholt Road.

Additionally, the chance of the shredder producing harmonics onto the electrical network is also high. The applicant should contact Endeavour Energy's Network Connections Branch as early as possible so thorough assessment of any power quality issues can be undertaken. If there is an issue of the applicant / customer's equipment inducing harmonics onto the electrical network, the customer may have to install harmonic filtering on their equipment to reduce the impact on the network.

In due course the applicant for the proposed development of the site will need to submit an application for connection of additional 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 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 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 telephone: 133 718 or (02) 9853 6666 from 8am - 5:30pm 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 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 should engage a Level 3 Accredited Service Provider (ASP) approved to design distribution network assets, including underground or overhead. 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> .

- Urban Network 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.

- 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. 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.

- 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 easement areas. Most activities are prohibited within the padmount substation easement area. 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, contact must first be made with the Endeavour Energy's Easements Officer, Jeffrey Smith, on direct telephone 9853 7139 or alternately email Jeffrey.Smith@endeavourenergy.com.au or Easements@endeavourenergy.com.au .

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

- General Restrictions for Overhead Power Lines.
- Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights' which deals with activities / encroachments within easements.
- 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.

Endeavour Energy has noted that the EIS does not appear to address in detail if the easements affecting the site.

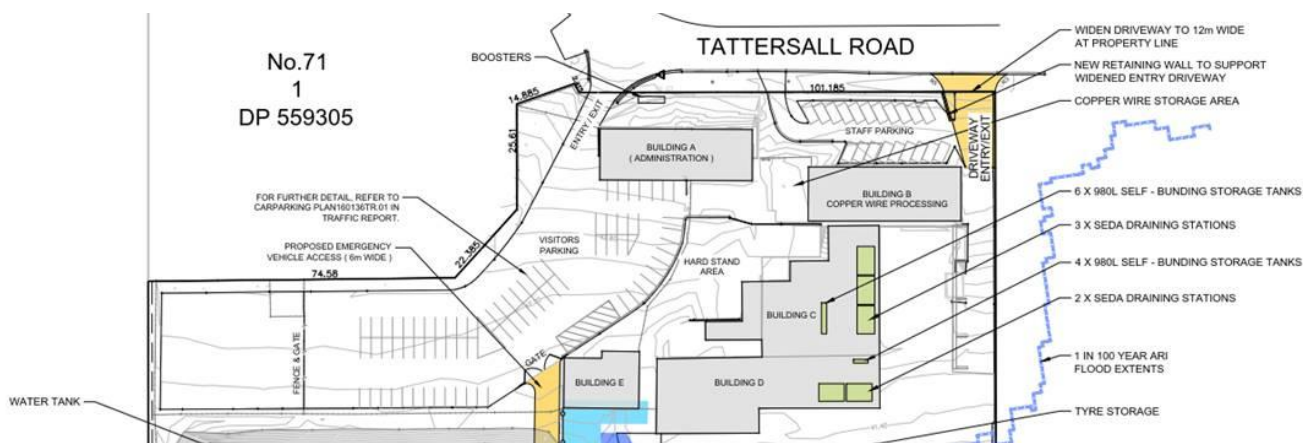
There have been five modifications of the development consent (NoD 14314).

- 25th October 2017

Amended by reconfiguration of the approved site comprising changes to the internal road layout, a reduction in the size of the vehicle storage area accessible to the general public to accommodate a permanent location for the hammermill shredder in the northwest corner of the site and, pending its relocation, the temporary location of the hammermill under an open-sided shed located on the southern section of the site adjacent to the electricity easement.

In regard to the easement for the padmount substations, Endeavour Energy's Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights' in addition to the easement for padmount substations now also include additional clearances / 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. These were introduced on a case for case basis from 2003 before becoming standard in 2009. Whilst the fire rating restriction is not included with the easement registered on title, Endeavour Energy strongly recommends that it be considered and adopted for any new development.

Endeavour Energy has noted that as shown in the following extract of the Development Plan the 'Copper Wire Storage Area' is in proximity of padmount substations (not shown on the plan).

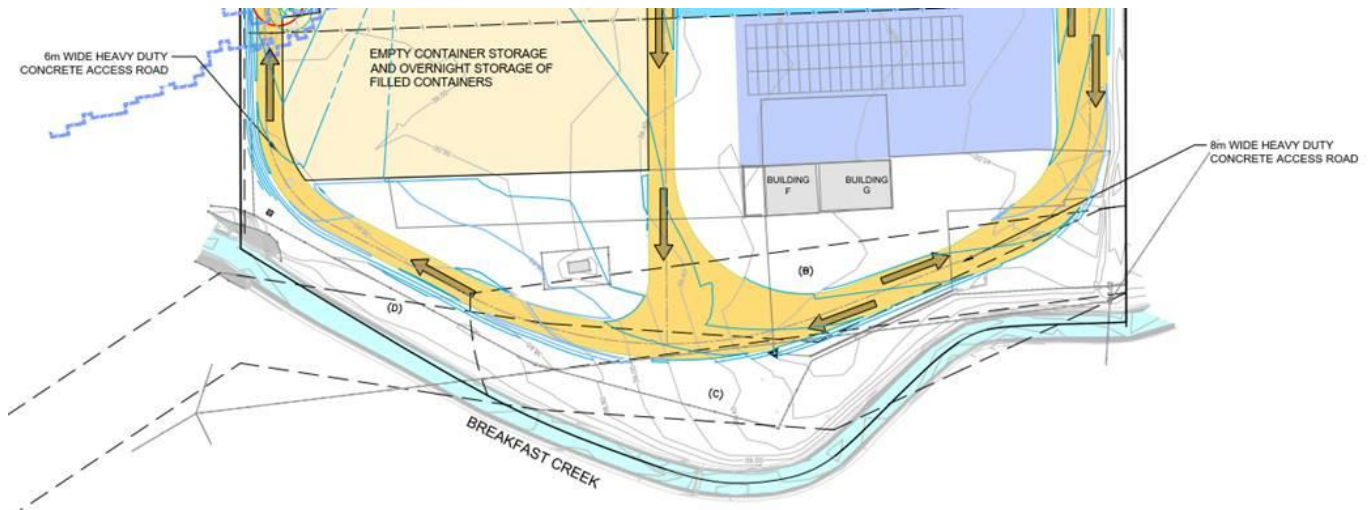


The EIS states:

The copper wire storage area is located on the western side of Building B, with the cabling to be stored in 2 tonne metal skip bins or 1 m³ bulk bags before it is shredded in granulator.

The processed copper granules will be stored in 1 m³ bags within the building. A maximum of 20 bags of processed material will be stored in the building prior to being collected.

In regard to the easement for overhead power lines, the Development Plan shows the access road in the easement.



EASEMENTS

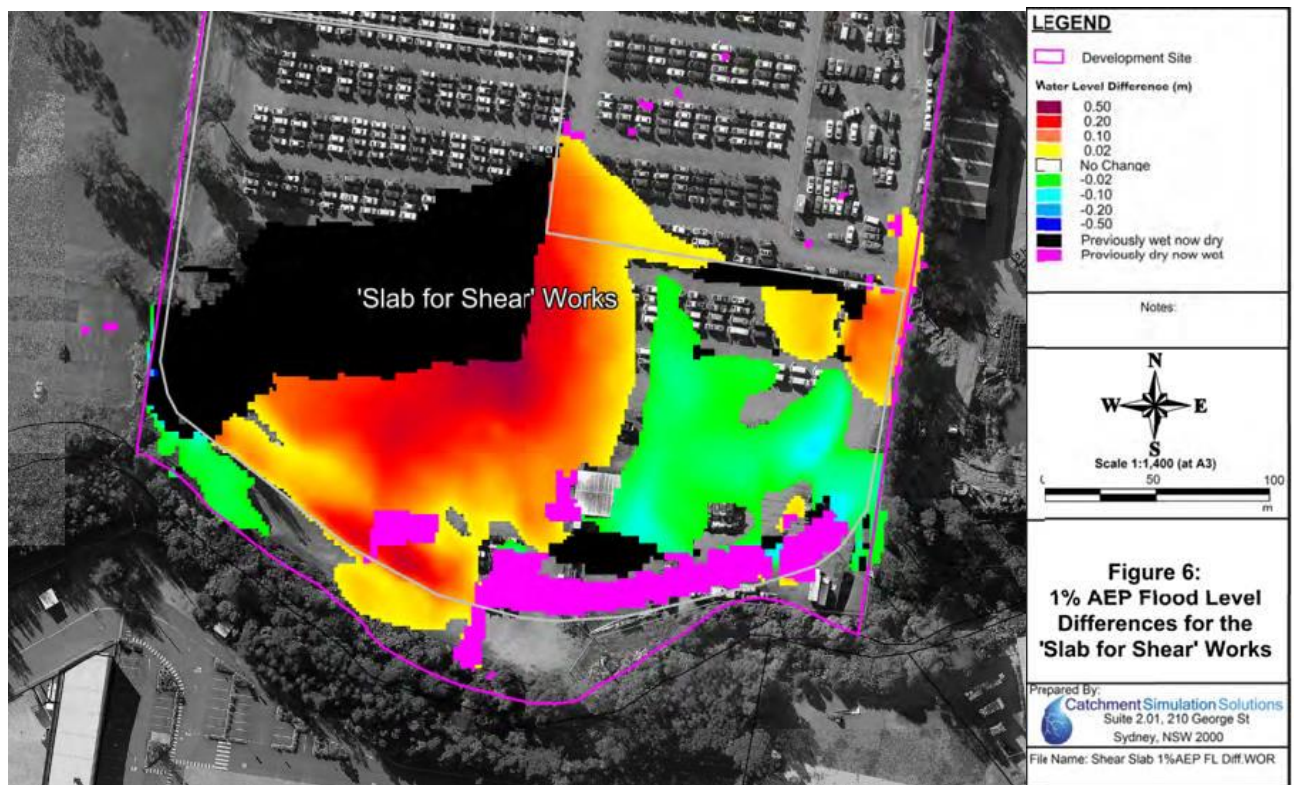
- (A) EASEMENT FOR SEWERAGE & DRAINAGE 0.915 WIDE (VIDE H854441)
- (B) EASEMENT FOR TRANSMISSION LINE 20.115 WIDE (VIDE H478705)
- (C) EASEMENT FOR TRANSMISSION LINE 20.115 WIDE AND VARIABLE
- (D) FORMER BANK OF CREEK

Endeavour Energy has also noted that as shown in the following extract of the Flood Impact Assessment that the easement area is flood affected. Any increased flood affectation near poles may affect the integrity / reduce the service life of the poles and cause difficulty for access for maintenance crews. The potential impact needs to be considered and appropriate mitigation measures implemented eg. the ground around the poles should be designed to be self-draining. In addition, although not likely to be a significant issue / risk, during broken pole or downed wire conditions, wet soil and puddles as good conductors of electricity will increase the area the fault voltage is dissipated to (please refer to the above point 'Earthing').

3.2 'Slab for Shear' Assessment

The flood level differences on **Figure 6** indicates that, in general, the central and southern portions of the works are predicted to experience increases in flood level, and reductions in flood levels are predicted in the eastern section of the 'Slab for Shear' works. These differences are associated with the modified surface topography proposed as part of the works. **Figure 6** also shows that a large area that is inundated under existing conditions is predicted to be "dry" during the 1% AEP event with the proposed modifications in place (refer black area in **Figure 6**).

Although increases as a result of the proposed works are predicted, these are all contained to the overall site. That is, the proposed development is not predicted to adversely impact on existing flood levels and extents along Breakfast Creek or across adjoining properties.



Additionally, Endeavour Energy has also noted the following:

- The Environmental Noise and Vibration Assessment whilst considering the impact on buried pipework does not appear to address any impact of vibration on poles in the easement?
- The Preliminary Hazard Analysis provides no specific details of electricity infrastructure on site, but the various explosion and heat radiation contours do not affect the electricity infrastructure / easement areas.

Accordingly as mentioned above the applicant must contact Endeavour Energy's Easement Officer to assess all the proposed activities with the easements. Please note however that the foregoing does not imply or indicate the granting of permission to any or all of the proposed activities within the easements.

- 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 the Department) 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 in the vicinity of 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.

- 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.

- 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 the Risk & Safety Management Plan.

I appreciate that not all the foregoing issues may 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 near 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.

Yours faithfully

Cornelis Duba

Development Application Specialist

Network Environment & Assessment

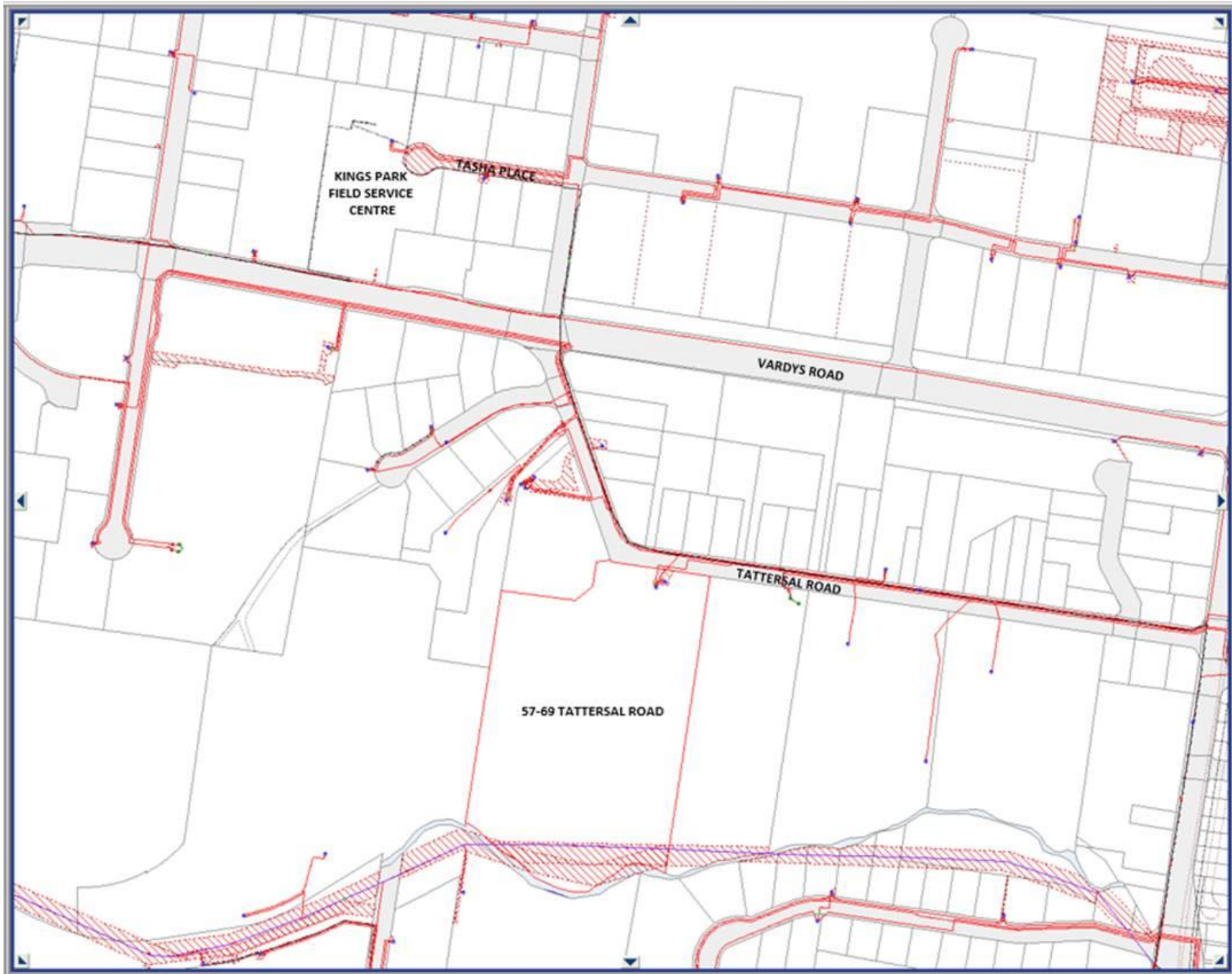
T: 9853 7896

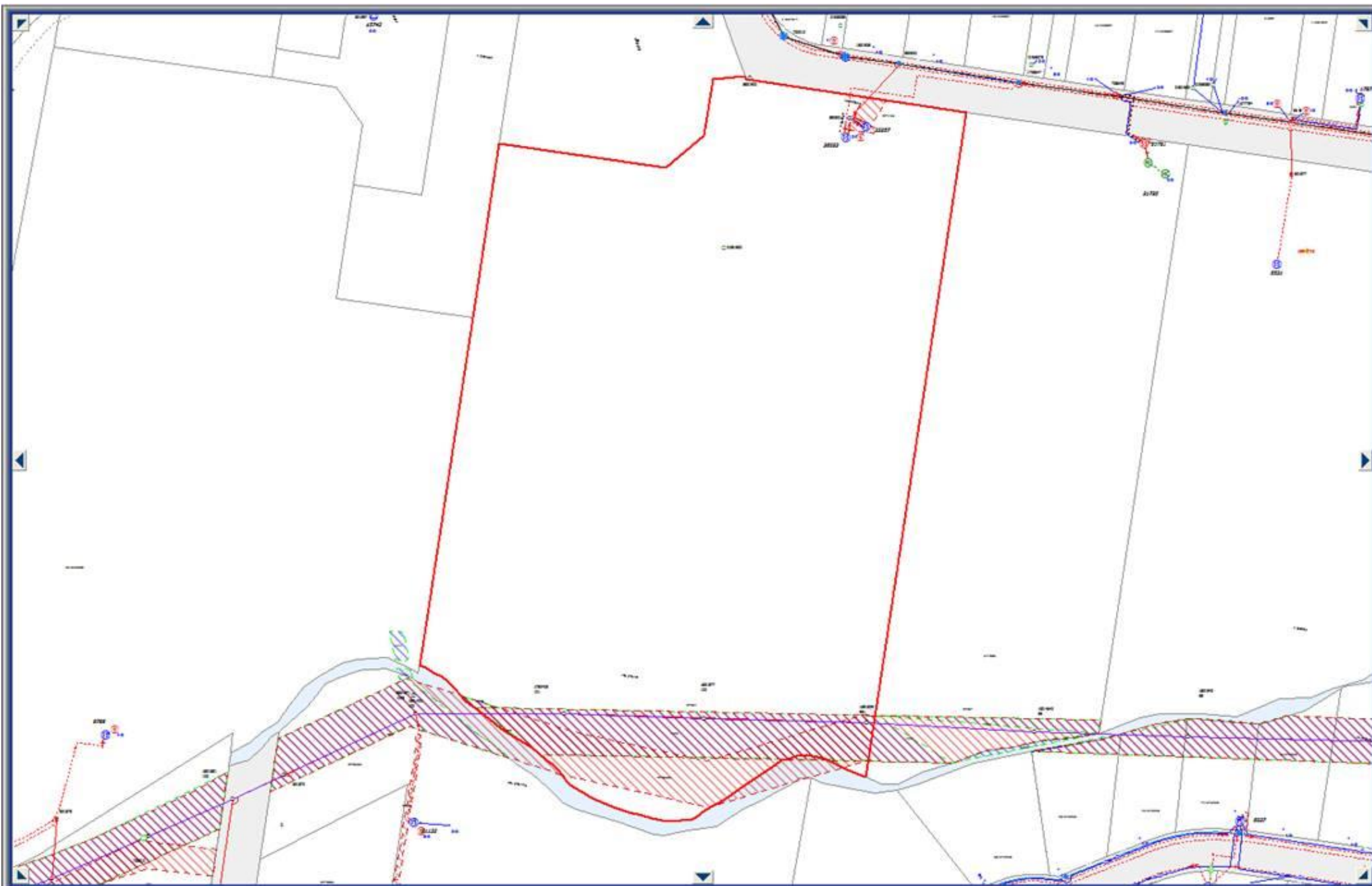
E: cornelis.duba@endeavourenergy.com.au

51 Huntingwood Drive, Huntingwood NSW 2148

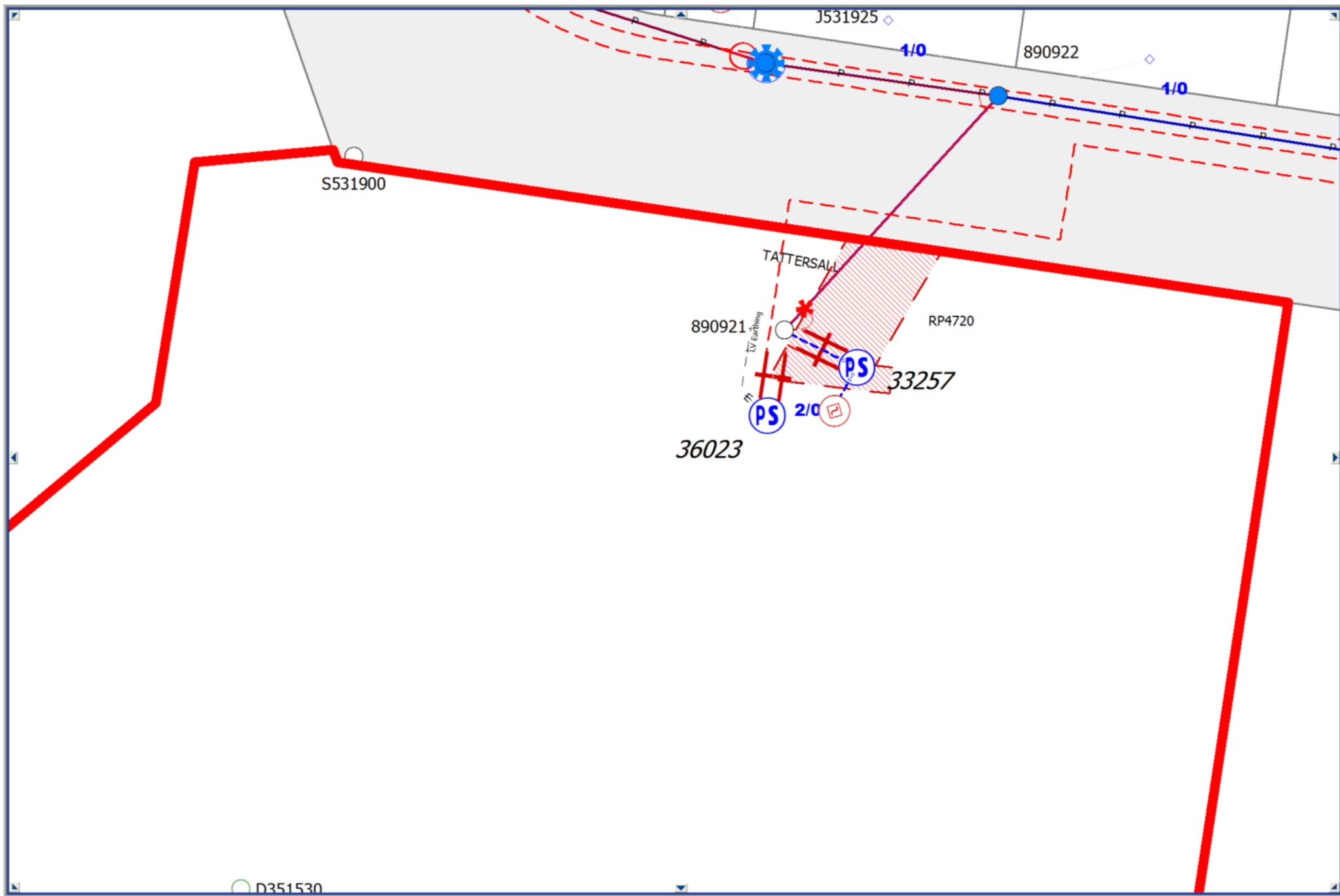
www.endeavourenergy.com.au







G3E_FID	Feature Name	Component Name	G3E_CID	G3E_ID	LOT	SECTION	DP
65913520	Crown Parcel	Crown Parcel Find	1	1831943	100		792731



41 Tattersall Rd
Kings Park, New South Wales

Google

Street View - Apr 2017



