

## General Restrictions for Overhead Power Lines

Endeavour Energy wishes to provide the following list of 'General Restrictions' applicable to the '**Easement Area**'. It should be noted that these are indicative guidelines only and that this information should be administered in conjunction with the requirements of the Work Health and Safety (WH&S) Act and WorkSafe NSW (formerly WorkCover) legislation.

Endeavour Energy recommends a policy of '**prudent avoidance**' be adopted in relation to the use of the easement area for ongoing staff activities or work areas. Additionally, WH&S and WorkSafe legislation should be consulted in relation to this matter.

As existing ground levels throughout the easement are unknown, it is assumed that minimum design clearances exist within the easement area. As such, references to permissible heights on any activity may alter from that stated within this document. **Written approval** must be sought for any activity within the easement area. For such approval, detailed plans drawn to scale, and fully dimensioned showing property boundaries and other relevant information should be forwarded to Endeavour Energy.

Approval to encroach into the easement area will not be granted where an alternate site clear of the easement area exists. All approvals granted are subject to the encroachments being removed or relocated; at the owner's expense should Endeavour Energy require this for cable maintenance, construction or emergency works.

Should any earthing be disturbed whilst work is being carried out, all work should immediately cease, and Endeavour Energy notified so that the earthing can be reinstated.

1. Construction of *habitable* buildings (permanent or temporary) e.g. Houses, site-sheds with sleeping quarters, shipping containers, other substantial structures or parts thereof, includes eaves, guttering and footings, *shall not be erected within the easement area.*
- 1a. *Non-habitable* buildings will be considered if no other sites available. They must be earthed as per Endeavour Energy's 069575.dwg. The building cannot have electrical power connected, or store corrosives, explosives, combustibles or flammables. The building cannot exceed 2.5m height.
2. No encroachment into an overhead Transmission easement will be permitted within 10 metres of the closest steel structure and 5 metres of the closest pole.
- 2a. No encroachment into an overhead Distribution easement will be permitted within 5 metres of the closest pole.
3. Changes to ground levels within the easement area are not permitted without the prior written approval of Endeavour Energy. Applications are to be supported by a geo-technical report prepared by a civil engineer.

4. **Statutory clearances to the conductors must be kept always.**

It should be noted that power lines are designed to allow for sag and swing sideways, consequently allowance for this needs to be considered always. The statutory clearance from 0 kV to 132 kV conductors is minimum 3 metres, in all directions, always. This clearance also applies but not limited to; persons, vehicles, hand tools, equipment, cranes, lifting gear, plant and load. Consideration needs to be given and the clearances increased where there is the likelihood of any inadvertent movement or swinging of the plant, crane, load or lifting gear towards the power lines.

5. Construction of roads, car and truck parking areas, and subdivisions will only be considered for approval if access to the structures is maintained and the layout is such that; sufficient building area is left clear of the easement, it will not create numerous utility crossings or later requests for encroachments.

6. If required, for Endeavour Energy to carry out the necessary calculations, the applicant must submit a Centre Line Profile, a recent survey, showing the following information:

#### **REQUIREMENTS FOR PROFILE CLEARANCE TO TRANSMISSION LINES**

**Note:** Clearances cannot be determined and will not be processed unless all the required information is submitted i.e. Current levels and Proposed levels.

#### THE INFORMATION TO BE SUPPLIED:

- In AutoCAD Format.
- Have a vertical exaggerated scale of 10:1. E.g. Horizontal Scales 1:1000 Vertical Scale 1:100 or Horizontal Scale 1:500 Vertical Scale 1:50.
- Information on the paper size that the drawing needs to be printed at for the scale to be correct e.g. Horizontal Scale 1:1000 Vertical Scale 1:100 when printed on A2.

#### **THE CENTRE LINE PROFILE SURVEY IS TO INCLUDE ALL OF THE FOLLOWING INFORMATION:**

- Lot and DP number of property.
- Clearly marked easement width.
- Total length of the conductor span affected.
- Conductor attachment height reading at each structure.
- Existing RL (Natural Ground Surface) and Final readings at the base of each structure.
- Indicate pole or structure identification numbers.
- Date, Time and Temperature at the time of each height reading taken.
- A height reading is required every 10 metres on the conductor closest to the ground of the Existing RL or as the terrain dictates for the entire span.

**Note:**

- The amount of distance required for each reading may be reduced on poles with smaller spans.

- Other information may be required where the structures are strained, or changes of direction occur on pole lines.
7. A second survey may be required upon completion of work.
  8. Vehicles with elevating or extending components such as earth moving vehicles, concrete pumping vehicles, loaders, fork lift trucks, tip trucks, cranes, including Derrick style cranes and hoists, Hiabs, Palfingers including others, and are not to proceed under the conductors until such components are returned to the travelling position.  
**Note:** Concrete pumping vehicles are not permitted to operate within an easement for electricity purposes.
  9. Vehicles, plant or equipment having a height when fully extended that exceeds 4 metres shall not be brought onto an easement area without the prior written approval of Endeavour Energy.
  10. The area within the easement is not to be used for the loading or unloading of trucks.
  11. No soil or other material is to be stored, loaded or unloaded within the easement area.
  12. The area within the easement is not to be used for storage or stacking of goods or materials, especially flammable or explosive material.
  13. Application for approval for the erection of non-climbable flagpoles, CTV cameras, security lighting, weather vanes, signs and the like might be granted, subject to a height limitation of 4 metres and the earthing of all metallic parts.

**MINIMUM APPROACH DISTANCES OF PLANT AND LOADS TO LIVE ELECTRICAL APPARATUS (FOR NON-AUTHORISED PERSONS)**

NOMINAL VOLTAGE	MINIMUM APPROACH DISTANCE
<b>Not exceeding 132,000V</b>	<b>3 metres</b>
<b>Above 132,000V but not exceeding 330,000V</b>	<b>6 metres</b>
<b>Above 330,000V</b>	<b>8 metres</b>

**Caution:** *The operator of the plant must be able to identify the voltage level of the apparatus that they are approaching with the plant or assume 8 metres as a minimum.*

14. Extreme caution is to be observed when working within easements and around any structures, poles or wires including overhead or underground.

15. Dial Before You Dig service plans are required to check for underground utilities prior to any excavations works. Contact 1100 for assistance.
16. All personnel are to be advised of the hazards of working near high voltage overhead or underground wires.
17. All machinery or plant within an electricity easement is to be operated by adequately trained and accredited persons.
18. Endeavour Energy recommends the use of a suitably trained safety observer when work is being carried out within the easement area.
19. A hazard identification and risk assessment should be carried out within the easement area. A safe work method statement should be provided for any work carried out within the easement area. All staff should be briefed regularly, or when there are any changes, as to the contents of the risk assessment and safe work method statement.
20. For the attention of staff and visitors to the site and to ensure constant vigilance, Endeavour Energy recommends that clearly visible safety signs be erected, in accordance with the relevant safety standards, alerting attention to the transmission lines and associated hazards.
21. Flammable, combustible, corrosive or explosive materials, including gas bottles, are not permitted within the easement area. Flammable liquid carriers shall not be placed within the easement area.
22. Garbage, refuse or fallen timber is not permitted within the easement area. Burning off is not permitted within the easement area without the prior written approval of Endeavour Energy.
23. Any metallic fencing within the easement shall require earthing and isolating in accordance with the Australian Standards as per AS3000.
24. Structures such as detached garages, sheds, stables, carports, unroofed veranda's, shipping containers, water tanks, fixed plant and equipment, will only be considered for approval if no other practicable alternative site is available clear of the easement area.
- 24a. No approvals will be granted for any of the above where they are proposed within the minimum clearances.
- 24b. No access is to be restricted whilst maintaining safety clearances always.
- 24c. Furthermore, any proposed structures must not exceed 2.5 metres in height if climbable and 4.3m if not climbable.

**Please Note:** - Due to effects of induction and possible lightning/line fault step and touch potential, requests for pools, spas, open water features and some water tanks inside the easement will not be approved.

25. Installation of utility services, such as power, telephone, gas, water and sewerage (overhead, underground, or on the surface) may be considered for approval by Endeavour Energy's Overhead and Underground Mains Manager. Proposed site dimensions in relation to assets are required.
26. Trees, plants or shrubs with a *mature height* that do not exceed 3 metres may be planted within the easement area provided they are no closer than 5 metres from the nearest structure (i.e. pole or tower). Mature trees must be a minimum 3 metres from the vertical projection of the nearest conductor (i.e. overhead power line). No plants are permitted in an area where they may obstruct access.
27. Dogs and livestock shall not be kept within the easement area if they are likely to create a dangerous situation for Endeavour Energy staff and thus restrict access.
28. Normal agricultural pursuits are permitted however, care should be taken when ploughing or operating mobile machinery near structures or supporting guys. Earthing systems are particularly prone to damage from such activities. It is imperative that access to the easement area and structures be available always. Whilst reasonable care will be taken, Endeavour Energy will not be responsible for any damage to crops caused whilst accessing and working within the easement area. The restrictions applying to the heights of mobile plant and equipment must be observed.
29. 24-hour 7 day a week access is required to the easement for emergency and maintenance purposes. Any locked gates are to have an Endeavour Energy lock incorporated in the locking system. Please contact Integrity Locking 1300 366 488 for details.

In addition to the above, details of some fencing restrictions are provided for your information. Written approval must be sought prior to the commencement of any work.

- A. Brick, masonry walls or other substantial structures or parts thereof shall not be erected within the easement area.
- B. All other types of fencing erected within the easement area are subject to a height limitation of 2.5 metres.
- C. Fences must not encroach 5m of any asset without written permission.
- D. The erection of any fencing is not permitted in a location that could create an unsafe working area for Endeavour Energy staff.
- E. All metallic fences are required to be earthed and isolated in accordance with Endeavour Energy's specifications or Australian Standards AS3000.
- F. Gates (4.2m wide) are required in boundary fences to facilitate longitudinal access to the easement area and associated structures by truck. All access gates are to include Endeavour Energy locks in the locking system. Please refer to the above point 29.