

AS/NZ Standards Compliance Guidelines
referenced in the
City of Wanneroo Fencing Local Law 2021

Guideline Statement	
Purpose	<p><i>These guidelines provide a high level overview of the requirements of the AS/NZ Standards referenced in the City of Wanneroo Fencing Local Law 2021.</i></p> <p><i>A full copy of the Standards detailed in these guidelines are available to <u>view</u> at the City of Wanneroo Civic Centre, 23 Dundobar Road, Wanneroo during business hours.</i></p> <p><i>Alternatively a copy of the Standards may be purchase from Standards Australia.</i></p>

1. INTRODUCTION

The City of Wanneroo *Fencing Local Law 2021* requires that the construction of masonry and electrified fencing is to be in accordance with the AS/NZ as applicable.

These guidelines provide a high level overview of the compliance requirements relative to these Standards.

2. GUIDELINES

Masonry Fences: AS3700:2018

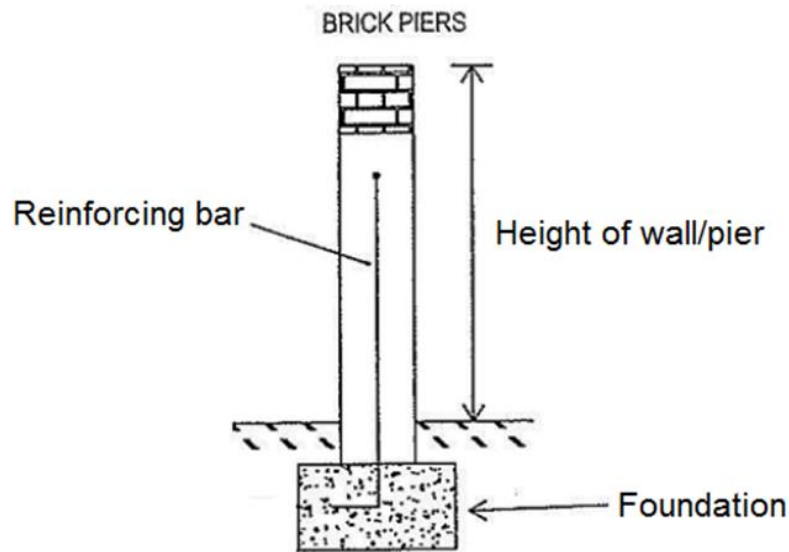
Masonry fences are to be constructed in accordance with AS3700:2018 Masonry Structures. The scope of the Standards is to provide commentary to assist in the interpretation and correct application of the provisions of AS3700:2018: Masonry Structures.

The Standards have been written with the expectation that those applying and using the provisions of the Standard will be qualified and experienced in their areas of responsibility. As there are a number of site specific requirements, all masonry fences need to be constructed in compliance with the manufacturer's instructions and structural engineers details.

Proof of compliance may be requested at any time i.e. a copy of the structural engineers details.

Masonry fencing will typically consist of a reinforced strip foundation and structural piers as illustrated below.

TYPICAL PIER DETAIL



Electric Fence (General including use in agricultural) – AS3014:2003

Electrical fencing to be installed in accordance with AS3014:2013 – Electrical installations – Electric fences.

This Standard sets out requirements for the installation and operation of electric fences and their associated equipment both outdoors and indoors. It covers electric fences powered by energizers supplied from all types of electric power sources (e.g. batteries, solar cells, diesel generators and mains power). It does not cover equipment, not associated with fences, that is capable of delivering electric shocks (e.g. cattle prods).

It is recommended that all electric fencing is installed and commissioned by a licenced electrician.

All electric fence energizers shall comply with AS/NZS 3350.2.76 – Household and Similar Electrical Appliances - Safety - Particular requirements for electric fence energizers. Refer to manufacturers details.

An electric fence shall not be supplied from two different energizers or from independent fence circuits of the same energizer.

For any two separate electric fences, each supplied from a different energizer with independent timing, the distance between the wires of the separate fences shall be at least 2m. If this gap is reduced, wires or connecting leads must be covered by insulation or consist of insulated cables, rated to at least the output voltage of the energizer.

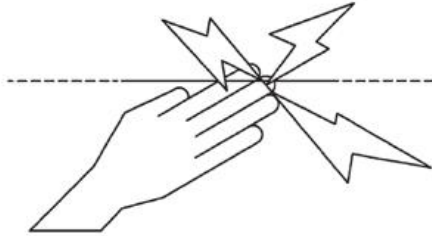
Mains supply wiring shall not be installed in the same conduit as signalling leads associated with the electric fence installation.

Barbed wire or razor wire shall not be electrified by an energizer.

It is a requirement that the electric fence is installed in a way to minimise hazards, entrapment and injury to persons, animals or property.

The electric fence shall have warning signage located within 20m of the beginning and end of the fence. In addition, signs are to be located at 100m intervals when the fence is adjacent to a public space, public road or thoroughfare and 50m intervals, in urban areas. Warning signs should also be located at likely public access points. Warning signs to be fastened to posts or firmly clamped to the fence wire.

Typical sign as per AS3014



At least 200mm x 100mm

Base colour yellow

Inscription on both sides

Lettering to be at least 25mm

Wording "TAKE CARE –ELECTRIC FENCE"

Where a person may come into contact with an electric fence where it forms part of a gateway or public access way, suitable provision is to be made to insulate that part with an insulation material or that part suitably insulated from the fence.

Where any part of an electric fence is constructed below overhead power lines –

- the fence to be no more than 2m high within 2m on either side of the outmost conductors when the nominal voltage of the overhead power lines does not exceed 1000 V; or
- The fence to be no more than 1.5m high within 10m on either side of the outmost conductors when the nominal voltage of the overhead power lines exceed 1000 V.

Fencing leads and wires shall not cross above communication lines.

Please refer to the manufacturer details of the energizer for further installation specifications including earthing requirements.

Electrical Installation – Electric Security Fencing – AS/NZS 3016:2002

This Standard sets out safety requirements for the installation and operation of electric security fences and their associated equipment. It covers electric security fences powered by electric fence energizers supplied from all types of electric power sources (e.g. batteries, solar cells, diesel generator sets and supply mains).

Electrical security fencing to be installed in accordance with AS3016:2002.

All security fencing **must** be installed and commissioned by a licenced electrician.

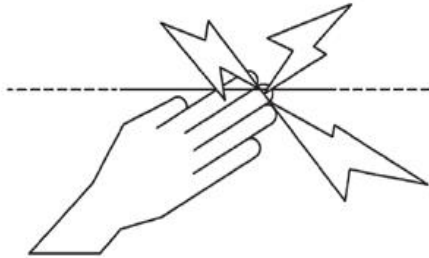
It is a requirement that all electrical security fencing be installed in a manner that minimises hazards, entrapment and injury to persons, animals or property.

The energiser and ancillary equipment shall be protected against the weather depending on the requirements of the manufacture's details and certification.

A horizontal separation of 2.5m space is required between uninsulated electric fence conductors or connecting leads, supplied from different energizers. Where conductors or connecting leads are insulated or consist of insulated cables, this spacing may be reduced if the insulation is rated to 10kV or if there is a physical barrier with openings less than 50mm.

The electrical security fence shall have warning signage at each gate or access point and at intervals exceeding 10m. Warning signs should also be located adjacent to any chemical hazard for the information of emergency services. Warning signs to be fastened to posts or firmly clamped to the fence wire.

Typical sign as per AS3016



At least 200mm x 100mm

Base colour yellow

Inscription on both sides

Lettering to be at least 25mm

Wording "TAKE CARE –ELECTRIC FENCE"

The electric fence must be separated from any public access by means of 1.5m physical barrier unless the electric fence is installed in an elevated position where the physical barrier covers the whole electric fence. Gates in electric security fence shall be capable of being opened without the person receiving an electric shock.

Care must be taken that the electrical security fence is not located within:-

- Prohibited areas - above overhead power or communications lines
- 3m of an overhead power line with a voltage of ≤ 1000
- 4m of an overhead power line with a voltage of $>1000 \leq 33000$
- 8m of an overhead power line with a voltage of >33000

The electric security fencing shall be effectively earthed. The earthing system shall not be connected to another system and must be located not less than 2m from the same unless this is associated with a graded earthmat.

Where an electric security fence passes below bare power line conductors, the highest metallic element shall be effectively earthed for a distance of not less than 5m on either side of the crossing point.

Fence line to be kept well maintained and free from vegetation with 30mm or greater Separation between exposed electrified wire and earthed metals to be provided.

Please refer to the manufacture details of the energizer for further installation specifications.

3. KEY RELEVANT DOCUMENTS AND REFERENCES

AS3700:2018 Masonry Structures

AS3014:2013 – Electrical installations – Electric fences

AS/NSZ 3350.2.76 – Household and Similar Electrical Appliances - Safety - Particular requirements for electric fence energizers

4. FURTHER INFORMATION, GUIDANCE OR CLARIFICATION

Building Services

REVISION HISTORY

Version	Next Review	Record No
Insert Date	Insert Date	Insert HPE Record No.
5/09/2022	5/09/2024	22/341217

Approved By	Approval Date	Effective Date
Manager Approval Service	07 September 2022	07 September 2022