

Engineering Standard

Right of Way

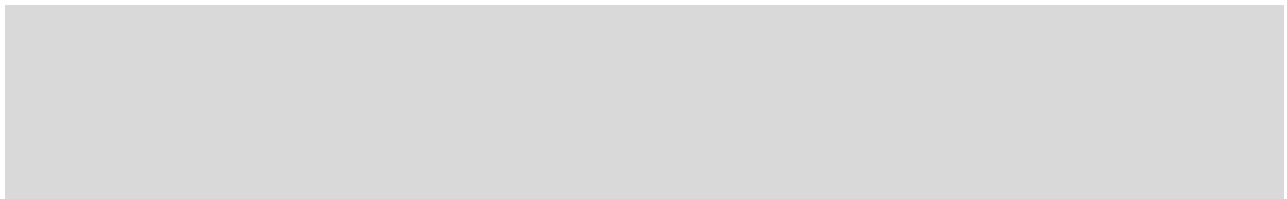
OTCS 510

BOUNDARY FENCES

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Approved by:



Document control

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| 1.0 | August, 2018 | First Issue. Includes content from the following former RIC standards: TS 3921, AP 6841, C 2460 and CRN CS 510. |

Summary of changes from previous version

| Section | Summary of change |
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1 Purpose, scope and application

This document specifies the requirements for the design, installation and maintenance of boundary fences.

Boundary fences are provided to:

- afford a measure of security and safety by restricting unauthorised access to the right of way and rail infrastructure facilities
- discourage stock from entering the right of way
- mark the boundary of the right of way.

New fences shall be designed, constructed and maintained in accordance with this standard.

Existing fences that do not comply with the design requirements shall be upgraded when the fence is due for renewal, or when enhancement is required as determined by a risk assessment.

2 References

2.1 Australian and International Standards

AS 1725 - 2003 Chain-link fabric security fences and gates

AS 2423 - 2002 Coated steel wire fencing products for terrestrial, aquatic and general use

2.2 CRN documents

Nil

2.3 Other references

CRN CP 511 Boundary Fences

Legislation: Acts of Parliament for construction of various rail lines.

2.4 Definitions

See AS 1725 for definitions of fencing terms.

3 Engineering authority

Design and selection of infrastructure detailed in this standard may only be undertaken by persons who have been granted appropriate Engineering Authority by the Engineering Manager

4 Requirements

The line is classified as non-fenced line in accordance with the various Acts of Parliament authorising its construction.

Fencing will be provided at Oberon yard where there is the possibility of public un authorized access onto the railway and any other high risk locations.

In all types of fencing, access for infrastructure and corridor maintenance shall be considered. Wherever such access is warranted, gates shall be provided.

5 Selection of fencing

There are four (4) types of fences:

- Stock fence
- Residential fence
- Urban fence
- Security fence

A “Stock” fence meets statutory obligations and shall be installed as the default standard where fencing is required.

In areas where trespass onto railway land may occur, it may be necessary to provide a superior fence. In such cases an “Urban” fence shall be provided.

The locations where an “Urban” fence may be erected are:

- Adjacent to roads where the running lines are close to the boundary.
- Along boundaries with recreation areas and schools.
- In shopping areas and where short sections of fencing occur in the urban areas.
- At locations where trespass and/or vandalism is occurring.
- At locations where a road dead end abuts the railway fence and trespass is occurring.

The installation of “Security” fencing may be provided to protect OTHR assets.

6 Standard designs

6.1 Stock fence

The stock fence shall be one of the following approved configurations:

- Strand wire
- Hinged joint mesh with additional plain and barbed wires.

The fence shall comply with Engineering Specification CRN CP 511 “Boundary Fences”.

6.2 Residential fence

The standard residential boundary fence is a hardwood timber paling fence.

A colourbond steel fence in accordance with manufacturer’s specifications, or urban fence may also be used.

Residential fences shall be 1800mm high.

The fence shall comply with CRN CP 511.

6.3 Urban fence

The urban fence shall be 1800mm high plain top chain-link fabric fence in accordance with AS 1725, which provides for four (4) standard configurations:

- Rail-less
- Top rail only
- Bottom rail only
- Top and bottom rail.

For fencing without top rail, bracing panels or bracing stays shall be used on all ends, corners and gateposts, and at 150m spacing on straight sections.

The fence shall comply with CRN CP 511.

6.4 Security fence

Approved configurations for the security fence are:

- 2400mm high chain link fabric fence topped with 3 strands of barbed wire.

6.5 Access gates

Access gates and locks shall comply with CRN CP 511.

7 Acceptance standards

All materials and components shall comply with the requirements of the relevant specified Australian Standard, or of CRN CP 511.

8 Installation requirements

8.1 Construction standards

Installation details for chain-link fences such as line and level, spacing of posts, footings, bracing panels/stays, connection of components and barbed wire extensions shall be in accordance with AS 1725 for chain-link fabric fences.

8.2 Connection with intersecting fences

Paddock dividing fences and private property dividing fences shall terminate on their own end post to the satisfaction of the owners. The connection between the private fence and the railway boundary fence shall be adequate for stock or trespass control.

8.3 Connection with bridges

Not applicable.

8.4 Fencing on curves

Where the fence is required to be erected on an existing curved boundary, the fence shall be erected as a series of chords or tangents with the distance between posts reduced.

The length of the straight shall be determined for each location to reduce to a minimum encroachment on private property yet retaining adequate land for firebreaks, access and other requirements.

8.5 Fences at waterways

Where the boundary line is intersected by a permanent waterway, the fence shall be returned to the abutments of the bridge or culvert as a "wing" fence.

The location of the boundary fence across small variable flow waterways is difficult to define and each case shall be treated on its merits to, essentially, avoid flood damage to the fence and yet retain effective stock or trespass control.