

# Post and Rail Fence Retrofit Programme

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# Post and Rail Retrofit Process -Flow Chart

- Site Selection
- Design Stage
- Preconstruction Stage
- Monitoring of works /Closeout

- Background to fence retrofit programme
- Knowledge gained from collisions review.
- Alteration to TII standards
- Alteration to road collisions information collected.
- New fence type and landowner feedback
- Plan going forward retrofitting the network.



Post and rail fence entering vehicle



View towards front windscreen

# Knowledge gained

- Little research internationally
- On The Spot research programme UK
- FCI
- LA General Supervisors
- Ongoing detailed monitoring of collisions on the network.
- Alternative fence types

Fencing considered a hazard



Fencing considered a hazard





# Summary of Situation

- Irish Standard based on a UK road side fence.
- No previous indication – Timber P&R fencing a hazard.
- Extent of problem evident- took action to find alternative type and change TII standards.
- TII does not generally retrofit when standards change.
- TII have taken a decision to fund a national fencing retrofit programme to improve network safety.



# Moving On

- Alteration to Standards, alternative fence type, TPR now considered a hazard.
- Alteration to information collected at RTC.
- Retrofit of Motorway network commenced 2017
- February 2018 TII requested the LA's to log inventory of post and rail fencing on single carriageways onto the GeoAPP.

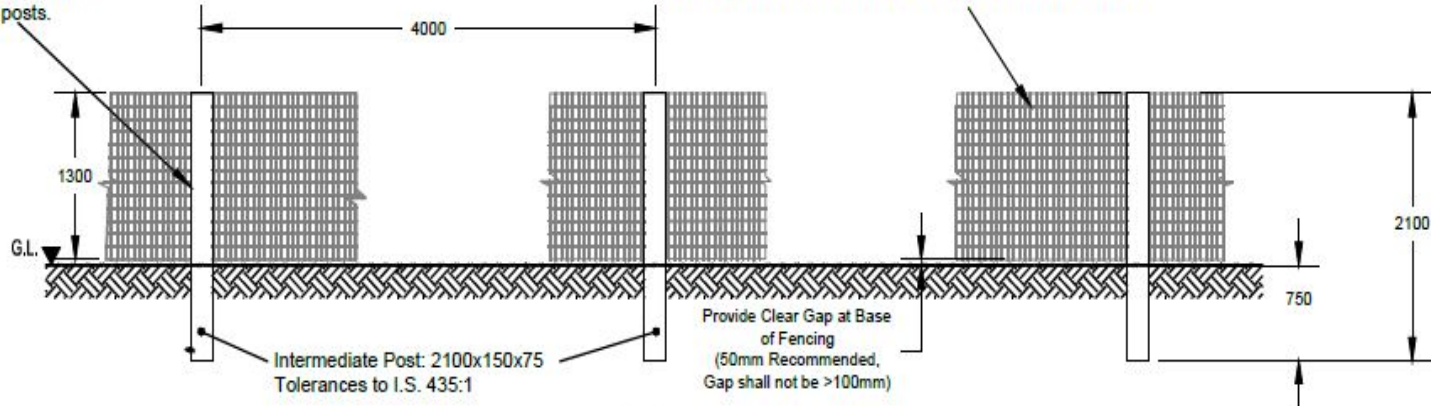
# Tension Mesh Fence



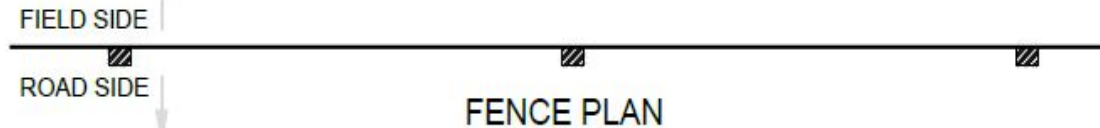
# SCD -00320

Mesh shall be fixed to intermediate posts using 40mm x 4mm Ø galvanised staples on every second horizontal line wire.  
Staples to be hammered in diagonally so as to limit potential splitting of posts.

2.5mm Ø, 14-130-5 mesh wire manufactured to IS EN 10223-5  
Wire to be Zinc Aluminium Alloy (95% Zinc, 5% Aluminium)  
Coating Weight 135g/m<sup>2</sup>  
Tensile Strength of Horizontal Wire: Min 1,235MPa  
Max. spacing between horizontal wires to be 150mm.  
Vertical wires at 50mm Spacing with joints as per Detail 1.

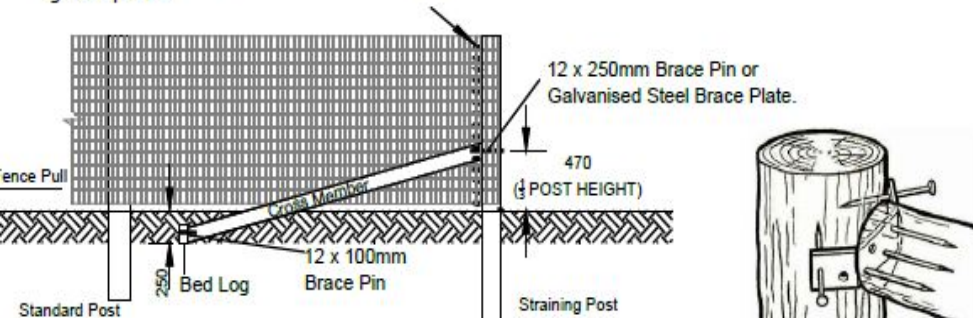


FENCE ELEVATION



FENCE PLAN

All straining posts to be 2500mm (min) x 170mm (+/- 3mm) 'machined' posts with a regular cylindrical diameter. Irregular, "Cundy Peeled" or "Rough round" type posts will not be acceptable. See Note 10 for fence termination guidance. All straining posts to be installed perpendicular to ground profile.



End Assembly Details

Item	Quantity	Description
End Posts / Straining Posts	1	2500mm x 170mm (+/- 3mm) Ø Timber Post
Cross Member	1	2700mm x 100mm (+/- 3mm) Ø Timber post
Brace Pin	1	12mm x 250mm Galvanised Pin
	1	12mm x 100mm Galvanised



Knot View

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

# Landowner feedback

After 5 years

- “would much prefer this type of fence than the timber post and rail fencing”.
- “are very happy with the tensioned mesh fencing”;
- “the wire is excellent, well tensioned and very well put up”
- “absolutely no problem with the fencing”

# Plan going forward

- Commence retrofitting of single carriageway network in 2019.
- Consultant from TII Safety Framework can be utilised if LA's do not have adequate in-house resources.
- All Local Authorities to engage in retrofit programme.
- Overcoming obstacles in getting the retrofit programme implemented.

# Other considerations

- What can or needs to be done to overcome obstacle's to getting the retrofitting programme underway and completed?
- What if any legislation is there to assist?
- What can be done from a planning enforcement point of view?
- How can a LA restrict the use of post and rail fencing along other public roads?



# Existing legislation

- Roads Act - Section 70

(b) Where a structure.....is a hazard or potential hazard to persons using a public road or where it obstructs or interferes with the safe use of a public road.....a road authority may serve notice in writing on the owner...or occupier of any land on which the structure is situated to remove, modify...within the period stated in the notice.

- Planning and Development Regulations

Article 9 relates to restrictions on specific exemptions (such as fencing around land) where...9(1)(iii)...such development would endanger public safety by reasons of traffic hazard or obstruction of road user...

# Existing legislation/Specification

- **National Standards Authority of Ireland Act 1996**

Irish Standard 435-1:2017. Standard Specification for Roadside Fencing- Timber post and rail.

States :-

“ WARNING The user of this Irish Standard is advised that in accordance with TII requirements, the construction of roadside fencing with timber post and rails is not permitted within the clear zone of a National Road as defined in TII publication.....In situations where fencing is required within the clear zone.....only timber post and tensioned mesh fence may be permitted.”

# Overcoming Obstacles to Retrofit Programme

- Please give feedback regarding difficulties with the implementation of the retrofit works so that issues can be considered by TII Safety.
- Current (2019) fencing retrofit allocations can be increased on request from Local Authority to TII Safety (TII Regional Road Safety).

THANK YOU