APPLICATIONS FOR NEW RAIL CROSSINGS

GUIDANCE FOR APPLICANTS

Contents

Document Control

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1.0	02 February 2017	D Gordon	First issue.

Definitions

In this document:

- “KiwiRail” refers to KiwiRail Ltd;
- “Applicant” refers to the party proposing the new crossing;
- “Crossing” refers to a pedestrian, cycleway or road crossing over rail. It does not include utility crossings (pipes, electric lines etc). Such crossings may be “level” (also referred to as “at grade”) crossings, or may pass over or under rail (“grade separated”).

1. Introduction

This document provides guidance for parties considering new crossings of the operational rail corridor.

1.1. New crossings must be grade separated

New crossings must be grade separated from rail by going over or under the railway corridor.

1.2. No new level crossings

Level crossings are acknowledged internationally as introducing safety risk into the rail and road/pathway networks. KiwiRail will endeavour to reduce the number of level crossings through closure and grade separation over time and has a policy of no new level crossings being formed on the rail network. Only in exceptional circumstances will KiwiRail permit new level crossings to be introduced onto the network, and only when the project includes closure of one or more existing level crossings.

1.3. The rail corridor is for rail purposes

The rail corridor is for rail purposes. KiwiRail may consider proposals for new crossings of the rail corridor in some locations, but this will always be contingent on safeguarding both current and future rail operations so that they are not adversely affected.

Rail operations include: freight train operations; passenger train operations; train operations support; stations and passenger facilities; freight storage and loading facilities; train maintenance; infrastructure maintenance; access for infrastructure maintenance; depot and material storage facilities; buried services; and train running infrastructure.

2. How KiwiRail will consider new crossing proposals

KiwiRail will consider proposals for new crossings in two stages.

Stage 1

The first stage is for KiwiRail to determine whether or not it is possible in principle for a grade separated crossing to be built without a detrimental effect on current or future rail operations.

The objective of the first stage is to eliminate proposals that clearly can't be accommodated in the rail corridor as early as possible in order to avoid wasted effort and expense for all parties.

Stage 2

If the proposal is determined to be possible in principle, then KiwiRail will work with the applicant (at the applicant's cost) to investigate whether it can be built to acceptable standards of safety and functionality that satisfy the requirements of all parties.

The objectives of the second stage are:

- For the applicant to design the crossing in sufficient detail for KiwiRail to confirm whether it meets all rail requirements. (Note KiwiRail does not take any responsibility for the crossing design, only that it meets KiwiRail's rail safety, operational and technical requirements);
- Establish a grant or other right to occupy the rail land that meets all KiwiRail requirements including responsibilities for ongoing management and maintenance of the crossing;
- Establish a methodology and security for construction of the crossing at the applicant's cost that meets KiwiRail requirements.

It is possible for a proposal to pass the first stage, but fail at the second if it turns out to be unachievable for safety, technical, functionality, cost or other reasons.

3. How to make a proposal

Applications for a new crossing must be made through the appropriate KiwiRail Network Services Regional Manager. See KiwiRail's web site for contact details.

It is recommended that the applicant makes early contact with KiwiRail to establish whether the new crossing proposal can proceed in principle (stage 1 decision) before committing resources to a detailed investigation (stage 2).

KiwiRail prefers that the applicant for a new crossing is the local Council or the road controlling authority to ensure continuity of resourcing for the project and the ongoing administration, maintenance, repair and renewal of the crossing.

4. Costs associated with proposals

For the first stage KiwiRail and the applicant will generally meet their own costs.

For the second stage all costs must be covered by the applicant. In particular this means that the applicant will need to meet all KiwiRail costs of supporting the investigation, design and construction of the new crossing and formally documenting the same, as well as its own costs. Applicants should note that it will be necessary to undertake site survey, design work, or other investigations to establish how and if the new crossing can be built. The applicant will need to meet these costs even if the new crossing project does not proceed.

5. Design Considerations

5.1. General

Crossing design should follow current best practice in terms of making reference to appropriate design standards. Crossing design must create a safe and hazard free area for public use; which does not permit deliberate or accidental use of railway operational areas.

While KiwiRail does not take any responsibility or liability for the crossing design, the designers should document the guidelines/standards they have used and include this in the proposal for KiwiRail's consideration and response.

Designers should consider the likelihood of double tracking and electrification of the railway. KiwiRail will advise on likely future rail developments and it may be necessary to carry out site survey and design work to establish whether the crossing can be built without adversely affecting these future rail developments.

The crossing must not obstruct or adversely affect any railway or third party infrastructure on the rail corridor.

5.2. Drainage

Appropriate drainage systems must be designed to ensure that storm water runoff is not concentrated and directed onto the rail lines or other railway infrastructure by the crossing infrastructure as this can undermine the integrity of the railway infrastructure and result in damage over time.

The drainage systems need to be compatible with other drainage along the railway corridor and cesses. Designers must show that the crossing design allows for standard drainage profiles for the railway by showing where these exist or that there is room for them to be provided in future. KiwiRail's standard railway drainage profiles should be overlaid onto design drawings where applicable. KiwiRail will supply details of standard drainage details as required.

5.3. Urban design and landscaping

The crossing design must consider urban design and landscaping. The design must be appropriate for the location and must comply with Crime Prevention Through Environmental Design (CPTED) good practice. Landscaping and planting selections must minimise future maintenance requirements and avoid introducing risk to the railway from plant root systems, vegetation blocking drains, and plants encroaching close to or falling on the track or overhead lines.

5.4. Maintenance access to rail corridor

KiwiRail requires a minimum area adjacent to the lines to allow access for rail personnel, vehicles and equipment to the railway infrastructure. This access is required for both maintenance and emergency purposes and shall be unimpeded at all times (24 hours per day, 7 days per week). Designers shall detail how the crossing proposal does not detrimentally affect such access. Some equipment within the railway corridor may belong to third parties, i.e. telecommunications equipment. The designers will need to both treat and protect access to third party equipment similarly to that owned and operated by KiwiRail.

5.5. Services

Appropriate measures need to be included in the design to protect, or relocate, any existing above-ground or below-ground services affected by the proposed crossing. If these are to be left in situ, then measures must be incorporated into the design to secure access and protect those assets.

KiwiRail may require an underground service route for future railway services to be built at the location of the proposed crossing. If so the service route may be built as part of the crossing project at the cost of the project, or provision made for it to be built at a later date.

5.6. Electrical infrastructure

In railway electric traction areas all parts of the crossing and ancillary infrastructure (such as fences and lighting poles) must meet clearance standards to live overhead wires and components. Fences and other metalwork must be bonded to the traction earth system where they are within the conductor drop zone or electrical induction could give rise to dangerous voltages.

Arrangements for maintenance of the crossing and ancillary infrastructure must consider the potential for encroachment within the minimum approach distance to live overhead wires and make suitable arrangements with KiwiRail for maintenance to be undertaken safely.

6. Construction

6.1. Construction Standards

The construction of the crossing shall be undertaken in accordance with the approval granted by KiwiRail, the relevant KiwiRail grant, license or lease requirements, all relevant engineering standards and Territorial Local Authority requirements.

KiwiRail will carry out a post construction inspection to ensure that all KiwiRail requirements have been met.

6.2. Construction Approval

KiwiRail requires to approve the construction methodology. It must be safe and must not detrimentally impact on train services or rail operations.

Applicants should note that there will be constraints on construction in or near the rail corridor for safety reasons and to avoid disruption to rail services, and that there may be restrictions on excavation methods in some areas (for example a requirement for hydro excavation or hand excavation to reduce risk of damage to underground services).

If material issues arise during construction that lead to a requirement for change, then KiwiRail must be given the opportunity to review and decline/approve the changes.

6.3. Protection of railway infrastructure

Particular care shall be taken during construction to ensure that rail infrastructure is not disturbed (unless approved), or damaged. This could include for example:

- Track subsidence;
- Excavation at the base of railway embankments, that might lead to destabilization and failure of the embankment;
- Disturbance to drainage systems over railway cuttings that might lead to failure of the cutting slopes or fouling the tracks below;
- Undercutting of the base of railway cuttings;
- Damage to railway cess drains and disturbance to the flow of storm water runoff (unless approved by KiwiRail);
- Damage to train inspection or staff walkway areas;
- Excavation adjacent to buildings, bridges or other structures that might undermine or destabilize the foundations;
- Damage to above ground railway equipment e.g. signalling equipment;
- Damage to existing above or below ground services.

7. Permit to Enter rail land

All entry on to rail land requires a Permit to Enter which can be arranged through the local KiwiRail Network Services Manager. In most locations there will be a requirement for safety supervision to be provided while on rail land and this will be at the applicant's cost.

8. Documentation

8.1. Design stage

Appropriate documentation is to be provided by the applicant as part of the planning and design process. General requirements include a site survey, scaled plans and cross sections detailing:

- Proposed location in plan view and rail kilometrage of the crossing, relative to the railway boundary, tracks and other railway infrastructure;
- Proposed levels, relative to the ground, track and other infrastructure;
- Details of existing underground and above ground services and proposed protective measures (and/or relocation) measures where appropriate;
- Details of how existing maintenance access to and along the railway will be maintained or enhanced;
- Details of the proposed construction.

The applicant will be required to prepare and submit a detailed technical specification for the proposed works, including a Construction Plan, for KiwiRail's approval.

8.2. Maintenance Plan

The applicant will also be required to prepare and submit a Maintenance Plan for the crossing, including periodic inspections. The Maintenance Plan must include:

- A statement as to the party(s) responsible for inspections and maintenance;
- How the applicant will maintain and repair and renew the crossing without impacting on rail operations and maintenance;
- Provision for reporting and promptly responding to damage and incidents.

A copy of all inspection and repair reports is to be forwarded to the local KiwiRail Network Services Manager.

8.3. Risk Assessment

The applicant is required to provide a Risk Assessment covering the design options and choices made for the protection of railway (and third party) infrastructure, crossing design and other interface issues.

If a level crossing is to be constructed then an ALCAM (Australasian Level Crossing Assessment Model) survey will be undertaken by an approved KiwiRail third party provider.

The ALCAM likelihood risk band will be used to determine the level of protection and design choices provided. All new level crossings are required to attain a low likelihood risk band for the jurisdiction. Mitigations sufficient to reduce the likelihood risk band to low for the new crossing will be needed. The ALCAM survey will consider the risks of all users including cyclists, walkers, vehicles, crossing maintenance activities, and railway maintenance activities.

KiwiRail will require participation in the Risk Assessment process.

8.4. As-Builts

As-Built drawings shall be prepared and submitted by the applicant to KiwiRail on the completion of the new crossing. Any variations to the design plans shall be clearly marked.

9. Arrangements for use of the Rail Corridor

All crossings must be formally documented by a grant (railway easement). KiwiRail will provide a copy of its current pro forma documentation which the applicant will be required to sign up to upon the application proceeding to stage 2. The grant, license or lease sets out how the crossing will be established and provides a regime for its ongoing use, maintenance, and renewal during its life. KiwiRail will require its costs of documenting the arrangement and its ongoing administration and annual inspections of the crossing to be met by the applicant.