



M50

Botany Line

Document Status

Version #	Date Reviewed	Prepared by	Reviewed by	Endorsed	Approved
3.0	10 Nov 23	Operations Standards	Stakeholders	Operations Standards Manager	Head of Operations Standards 18/12/2023

Curve and Gradient Diagrams – Data Sources and Descriptions

Data Type	Data Source	Data Description
Grade	ARTC Asset Register	Horizontal and vertical geometry obtained using Reigl LiDAR, GPS, IMU and Gyroscope fitted to ARTC Hi-Rail vehicle.
Curvature	ARTC Asset Register	Curvature data measured using AK car and verified against track design specifications.
Platforms	ARTC Asset Register	Asset locations obtained through TrackData.
Tunnels		
Turnouts		
Level Crossings		

DISCLAIMER:

1. The following diagrams are a representation only.
2. Refer to the Curvature Master for controlled curvature data.
3. Refer to ARTC Network Information Books diagrams for detailed information.
4. This document is uncontrolled when printed.

Interpretation of Diagrams

Route Name with
Diagram Start
and End Point

Platform and
Location

Gradient

Centreline

Radius in Metres

Left Curve

Right Curve

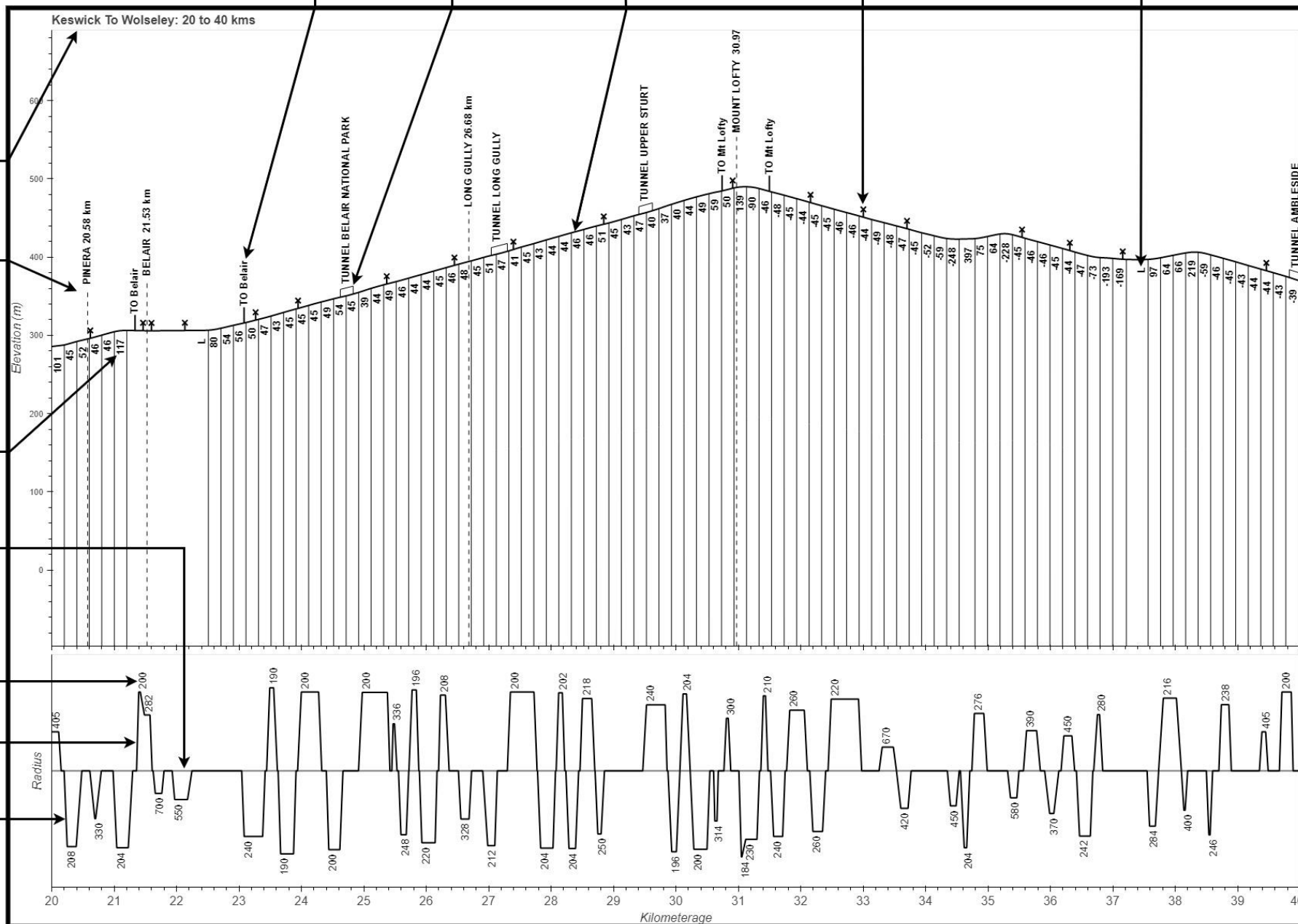
Turnout

Tunnel

Elevation Profile

Level Crossing

Level Gradient



Turnout	Turnouts are denoted by a small vertical lines along the elevation profile, with a TO (turnout) prefix. A suffix of XO means that there is a crossover. These turnouts are toe of blades locations, and therefore should not be used to estimate standing length.
Tunnel	Tunnels are denoted by a step above the elevation profile. The length of the step is the length of the tunnel. The above label is the name of the tunnel.
Elevation Profile	The elevation line shows the elevation against distance. This elevation is relative to sea level, and the vertical range across an entire basecode is fixed and will not change from diagram to diagram.
Level Crossing	Level crossings are denoted by a cross on top of a vertical line above the elevation profile. This marker indicates the centre of the level crossing. Level crossings can be subject to change, so these are provided as a guide only.
Level Gradient	A level gradient is a gradient with an absolute value greater or equal to 1:2500. Level gradients are denoted by an “L”.
Route Name with Start and End Point Platform and Location	<p>This is the title of the diagram. The route name is the start and finish point of the basecode. The stand and end points represent the distance covered by the diagram below.</p> <p>Platforms are denoted by a dashed vertical line leading up to a vertical label. Within the label, the platform name is indicated, followed by the kilometerage at platform centre. Both active and inactive platforms are included.</p>
Gradient	The gradient is shown as a “1 in” number. A positive gradient indicates an increase in elevation and a negative gradient gradient indicates a decrease in direction. The gradients are calculated between the solid vertical lines which are approximate vertical intersection points.
Radius in Metres	The curvature is represented by the radius, in metres. The curvature line is represented as the “inverse radius”. This means that tighter curves have more deviation from the centreline. The radius labels are not inverted however, and show the radius in metres. Compound curves are stepped. The radius values are rounded depending on magnitude. < 250 is rounded to the nearest 2m, < 350 to the nearest 5m and >500 to the nearest 10m.
Centreline	The gray line on the radius plot incidicates a radius of 0. This line is included to increase the readability of curvature values.
Left Curve	Curves above the centreline indicate a left hand direction.
Right Curve	Curves below the centreline indicate a right hand direction.

M50 - Botany Line: 0 to 20 kms

