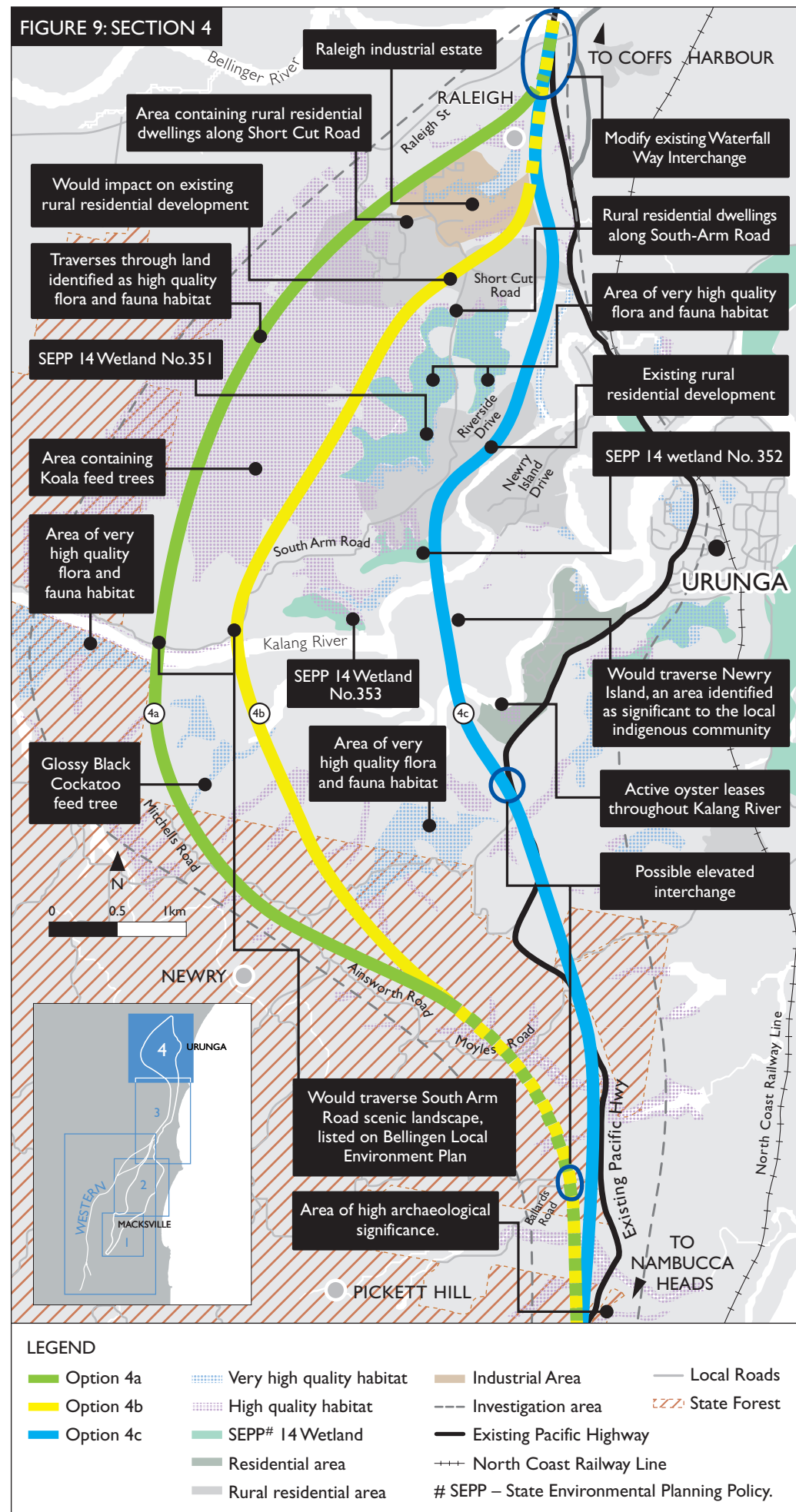


SECTION 4 OPTIONS From Little Newry State Forest in the vicinity of Mines Road to the southern end of the Raleigh Deviation.

Section 4 provides a bypass of Urunga. Three shortlisted options have been developed in this section. Figure 9 and the table below provide a comparison of the shortlisted options for Section 4.



	OPTION 4a (GREEN)	OPTION 4b (YELLOW)	OPTION 4c (BLUE)
DESIGN ISSUES			
TOTAL LENGTH	13.5 km.	2.4 km.	11.3 km.
BRIDGES OVER KALANG RIVER	Single crossing approximately 170 metres in length.	Single crossing approximately 155 metres in length.	Bridges over both arms of the Kalang River approximately 355 metres in total length.
MAXIMUM GRADIENT	Would have a maximum gradient of 5%.	Would have a maximum gradient of 6%.	Would have a maximum gradient of 5%.
MAXIMUM ELEVATION	43 m above sea level.	36 m above sea level.	41 m above sea level.
SIGNPOSTED SPEED	All options have been developed for an ultimate signposted speed of 110km/h. With staged construction, initial speed limit may be 100km/h.		
CONNECTIONS TO TOWNS	All options include a possible interchange with the existing highway south of Urunga and a modification to the existing Raleigh Interchange.		
CONNECTIONS TO SECTION 3	All options connect with the northern end of Section 3.		
PRELIMINARY COST ESTIMATED IN \$2003	\$166 million (\$12.3 M/km).	\$156 million (\$12.5 M/km).	\$180 million (\$15.9 M/km).
ABILITY TO STAGE CONSTRUCTION	The 11.3 to 13.5km bypass of Urunga could be constructed as a stand alone project.		
PROPERTY IMPACTS			
APPROXIMATE NUMBER OF AFFECTED PROPERTIES	47 parcels of land.	58 parcels of land.	62 parcels of land.
IMPACT ON RURAL PROPERTIES	All options have the potential to divide some rural properties and may require measures to reconnect severed properties.		
COMMUNITY IMPACTS			
POTENTIAL NOISE IMPACTS	86 residences potentially affected without noise mitigation.	85 residences potentially affected without noise mitigation.	284 residences potentially affected without noise mitigation.
	Both options have potential to impact on the South Arm Road scenic landscape, which is of cultural heritage significance.		In close proximity to the South Arm Road scenic landscape.
FLOOD IMPACTS	For all options, the crossing of the Kalang River and floodplain would result in a maximum increase in flood level of less than 50 mm for the 1 in 100 year flood.		
BIOPHYSICAL IMPACTS			
POTENTIAL IMPACT ON – FLORA AND FAUNA HABITAT	<ul style="list-style-type: none"> • 1.5 ha very high quality. • 20 ha of high quality. • 28 ha of medium quality. 	<ul style="list-style-type: none"> • 1 ha very high quality. • 12 ha of high quality. • 20 ha of medium quality. 	<ul style="list-style-type: none"> • No impact on very high quality. • 4 ha of high quality. • 20 ha of medium quality.
– THREATENED SPECIES	Would have a high impact on potential threatened species habitat.	Would have a moderate impact on potential threatened species habitat.	Would have a low impact on potential threatened species habitat.
– STATE FOREST	All options would impact on Little Newry State Forest and Newry State Forest.		
– RIVERINE/AQUATIC VEGETATION	All options have the potential for impact on riverine and aquatic vegetation at the Kalang River and other waterway crossings.		
HERITAGE IMPACTS	Impact on 2 areas of potential archaeological sensitivity (1 of high significance). Impact on 1 site of low significance.	Impact on 9 areas of potential archaeological sensitivity, of low to moderate significance. Impact on 1 site of low significance.	Impact on 4 areas of potential archaeological sensitivity, of low to moderate significance and Newry Island, an area of high archaeological significance. Impact on 1 site of low significance. Is in close proximity to another site of high cultural significance.
	These options are in the vicinity of an area of significance for indigenous heritage on the eastern side of the existing highway.		In the vicinity of two areas of significance for indigenous heritage.